
Optimizing Library Marketing with Short URLs

Kimberly Abrams

Technical Services & Electronic Resources Librarian,
New York City College of Technology, City University of New York

Junior Tidal

Web Services & Multimedia Resources Librarian,
New York City College of Technology, City University of New York

Abstract: In this study, researchers observed the impact of various promotional materials, such as print flyers, social media, email, and other web platforms, to market three electronic resources at a mid-sized, urban, commuter college academic library. Links to article databases were shortened and then tracked through a link shortening tool, which were observed over a two month period. The results created a data-driven picture of users' promotional preferences, highlighting strengths, areas for improvement, and best practices in marketing e-resources. These best practices can be implemented at other libraries and the study methodology can be applied to other institutions tailoring their promotional efforts of e-resources.

Keywords: Library marketing, library promotion, electronic resources, short URLs, library assessment, marketing assessment, social media

Introduction

To better market e-resources to library users, it is important to assess what promotional strategies are the most effective. This study observes the marketing preferences for the end users of three e-resources: CINAHL, IEEE Xplore, and Communication & Mass Media Complete (CMMC). These resources were tracked utilizing short URLs via several

different promotional venues including: print flyers, email, Instagram, Facebook, Twitter, the library blog, and LibGuides. The researchers at a college library developed a methodology and collected statistics regarding different marketing options, such as venue or subject. By analyzing this data, it was determined what type of marketing appeals best to end users based on data-driven results.

New York City College of Technology, CUNY

The New York City College of Technology (City Tech) is a member of the City University of New York (CUNY). The school is geared towards bachelors and associates applied degrees and programs with an emphasis on technology. City Tech has 17,500 total students, the majority of whom went to high school in New York City. It is considered a commuter school as there are no dormitories on campus. Although the library is officially the Ursula C. Schwerin Library, it is known locally as the City Tech Library.

The City Tech Library takes a collaborative approach to marketing through the internal Promotion, Outreach and Marketing (PROM) department committee. On this committee, librarians from various departments promote library services and resources to students and faculty. Currently, there is not a promotion and outreach librarian at City Tech, so work is distributed among committee members. The committee consists of seven members and is chaired by a reference and instruction librarian.

Since it is a commuter school, it can be particularly difficult to market library services to students. Unlike a residential campus there are fewer interactions with students and the library has limited hours. The PROM committee strives to meet students where they are. These efforts include organizing campaigns through social media, using posters within and outside of the library, and partnering with other college units to promote library-related resources and events.

Literature Review

There is a lack of literature that supports the use of short URLs in library and corporate marketing. However, one of the values of short URLs is that short URL click analytics can act as a form of observed behavior, as clicks provide quantitative usage preferences of end users, and there is a substantial amount of literature that underscores the importance of understanding user behaviors and preferences.

Understanding library users' information seeking behavior indirectly improves library usage. Massey (1976) states that observation of library users' information seeking behavior, such as their search methodologies, use of signs, and need for assistance, improves library usage. The "resulting tallies and summaries of such observations may lead to the improvement of physical aspects of layout..." (Massey, 1976, p. 477). With short URLs, click analysis acts as a technologically enabled form of observation that offers the opportunity to determine how users interact with marketing material for e-resources.

Promotion and advertising are a part of the marketing cycle and should be analyzed through a marketing orientation. A marketing orientation, as defined by Almquist, "focuses on the user, employs market research to identify competitors and user needs, supports continuous information-gathering, and fosters coordination and involvement among all of its functional units," which can be a way for librarians to address and meet users' needs (2014, p. 45). By isolating the assessment of marketing functions, librarians can better understand the needs of end users. Adopting a marketing orientation can change the way librarians conceptualize promotion as a function of marketing and not the end of the process. As Almquist states, "when fully realized, marketing is a bidirectional process in which user needs are determined, services developed, and feedback obtained to assess how effectively the library has addressed the needs" (2014, p. 45).

In the user-focused library system (UFLS) model, end users are of central importance and "the key intention of library marketing should be to understand its users and to influence effective use of library resources" (Hossain, 2013, p. 127). This model is based on the assumption that if library management fosters an environment of user-centered marketing behavior, then marketing strategies must consider the experience of end users in order to influence increasing use. Using this model, it is necessary to continuously evaluate user needs and preferences as indicators of service quality.

Librarians at The College of Wooster surveyed students to determine end user preferences for how to receive promotional materials for library events. They found that email was the most preferred outlet for faculty and the second most popular for students after flyers and posters (Gustafson, 2017, p. 427). Advertisements on the library website were also well received by students. Librarians observed how many students came to events when advertised via the preferred outlets. Comparing survey research with attendance at library events, such as workshops, it was found that advertising preferences differed by user group and the subject of content. However, it was difficult to distinguish this because of other

factors, such as the content and/or timing of those workshops. End user preferences are also a “moving target” because they change as new technologies develop and it is “difficult to know what will attract and engage” them (Gustafson, 2017, p. 421).

To promote awareness, knowledge, and usage of library e-resources, 100 libraries engaged in a collaborative marketing project. The primary goal was to encourage faculty and staff to increase utilization of e-resources during instruction and reference over a period of time. The researchers hypothesized that if librarians and staff are confident about how to use the e-resources, then patrons are more likely to use them as well and their findings supported this hypothesis. They found that “marketing databases to staff by way of online tutorials had a generally positive effect on database use within most libraries” (Kennedy, 2013, p. 49). The increased database use is directly attributed to the enhanced staff training of e-resources features. In-person interaction with patrons worked well when the faculty and staff were adequately trained in how to teach the resources. While in-person interaction worked well, not all members of an academic community use the physical library, highlighting the need to have a digital presence where users can become familiar with the library’s offerings.

Through a marketing study, librarians at San Diego State University found that promoting seven separate resources on the library website definitively increased usage for six of them (Rogers and Nielsen, 2017). They collected usage statistics for two years and then compared the data to statistics collected during one month when they actively promoted the resources by including them on the featured resources section of the library website. This project was conducted due to administrative fiscal pressure which called for a 10% increase in COUNTER usage statistics, a standardized way for reporting usage across e-resources (Rogers and Nielsen, 2017). While they found that usage increased during the time they promoted the e-resources, statistics decreased approximately to the previous level after the promotional period. This temporary increase in usage results in a strong argument for a frequent promotional cycle, such as featuring electronic resources on a monthly basis.

Methodology

The initial development of the plan to use short URLs to market electronic resources began with an exploration of what marketing outlets appeal to undergraduate students by informally discussing current means of library promotion and hypothesizing what our results would be. By evaluating social media outlets, it was found that students were engaged with

Twitter and used student email to learn about library services. The researchers sought to primarily use digital means of marketing, including social media and email. There was not a formal data collection process to learn about social media habits from students, but it was casually known around the reference desk and by word of mouth that students followed the library's Twitter and Instagram accounts. Facebook was dropping in popularity among students. Additionally, the library already used several social media accounts to promote events and news, so it was natural to market e-resources through these avenues. Another aspect the researchers compared was the number of clicks of the observed e-resources on the library's A-Z database webpage from the previous year.

Short URLs

After the researchers selected which marketing outlets to focus on, they then decided to focus on a marketing strategy using short URLs. Links to library e-resources are often lengthy because they have vendor and authentication information embedded in the link. The first half of the URL is the proxy prefix (<http://citytech.ezproxy.cuny.edu/login?url=>), followed by the resource's URL (<http://search.ebscohost.com/login.aspx?authtype=ip,uid&profile=ehost&defaultdb=a9h>). Combining the two constructs the proxied URL: <http://citytech.ezproxy.cuny.edu/login?url=http://search.ebscohost.com/login.aspx?authtype=ip,uid&profile=ehost&defaultdb=a9h>. Full URL paths show important authentication and access information. However, due to the length of the proxied URL, they are not readable or memorable and are therefore not ideal for promotion. As an alternative, the library decided to use abbreviated URLs with the City Tech name as the link domain to market different resources.

There are some drawbacks, however, to relying on short URLs. Although short URLs are easier to type compared to a proxied link, the end user has to go through the process of manually typing the URL into a device as opposed to clicking on it. This may be difficult for users. On a mobile device, there is the barrier of screen size and keyboard size. The screen size may be too small and it takes a level of dexterity to type the URL into a touch interface. Laptop users may not necessarily have their computers opened or have access to Wi-Fi to access the site that the short URL points to. Whereas on fixed workstations, the student does not have physical access to the poster. This can create a problem connecting users to an e-resource via print media.

The library did consider quick response (QR) codes. While QR codes have the benefit of linking the user directly from print media to electronic content, research has shown that

they are scanned infrequently and users often do not know how to access the link. They have decreased in popularity and are strongly associated with spam content (Ratajeski and Kraft, 2015). With this in mind, the library opted for short links rather than QR codes for promoting library content.

Selection of YOURLS

Short URLs, in the context of library e-resources, are compact links that redirect users to a longer proxy-authenticated link. In order to streamline linking for end users, proxied links on the library's database A-Z web page were shortened in length using YOURLS, an open source short URL manager. The YOURLS platform was chosen because it is open source and provided greater control over content and user statistics, in contrast to commercial services such as bit.ly, Tinyurl, or ow.ly. Additionally, data about short link usage, such as the number of times it was clicked on, when it was created, etc., are under the control of the library, which quells privacy concerns associated with other platforms such as Google Analytics (GA) Campaign URL.

The library also chose YOURLS over GA because the labor involved in tracking Google URLs in GA was time consuming due to the extensive coding involved. Implementing YOURLS, in comparison, was much simpler as short URLs were easily created and embedded into promotional materials. After installing YOURLS on a server, there is no additional coding involved in creating short URLs. The system uses a web-based form to create a URL. The YOURLS administrator copies and pastes the proxied link into the system and it returns with a shortened URL.

YOURLS is free and easy to use but requires a server to run. If the server goes down, then all the short links created in YOURLS become inaccessible. With this in mind, the library needed to consider the staff time and expense required to maintain the links and the server.

One advantage of using YOURLS is that URLs can be branded with a unique domain. The branded domain, <http://cityte.ch>, is short and easy to remember, and makes it clearer to students that they are accessing resources through the City Tech Library. The resulting link looks like this: <http://cityte.ch/asc>. While the same authentication and directional information is embedded in the link, it is compact, readable, and memorable in comparison to the longer proxied link.

Another reason that YOURLS was selected was because it had been used for several years by the library to distribute electronic links in print materials, promote blog posts, integrate library information into the library's Twitter account, and provide overall easier access to web pages and resources for students. Additionally, librarians used creative applications of YOURLS. This includes managing multiple platforms that contain links to the library's e-resources.

Selected e-Resources for the Study

Different short URLs were assigned to promote three different e-resources, CINAHL, IEEE Xplore, and Communication & Mass Media Complete (CMMC). In addition, the library-created unique links were also assigned to different marketing tools so that it would be able to develop a ranking of the most successful marketing outlets. For example, <http://cityte.ch/asca> was used to track print flyers and <http://cityte.ch/ascb> was used to track email (Table 1).

Resource	A-Z URL	Print	Email	Blog	Instagram	Facebook	Twitter	LibGuides
CINAHL	http://cityte.ch/cinahl	http://cityte.ch/cinahl_a	http://cityte.ch/cinahl_b	http://cityte.ch/cinahl_c	http://cityte.ch/cinahl_d	http://cityte.ch/cinahl_e	http://cityte.ch/cinahl_f	http://cityte.ch/cinahlg
IEEE	http://cityte.ch/ieee	http://cityte.ch/ieeaa	http://cityte.ch/ieeeb	http://cityte.ch/ieeec	http://cityte.ch/ieeed	http://cityte.ch/ieeee	http://cityte.ch/ieeeef	http://cityte.ch/ieeeeg
CMMC	http://cityte.ch/cmmc	http://cityte.ch/cmmc_a	http://cityte.ch/cmmc_b	http://cityte.ch/cmmc_c	http://cityte.ch/cmmc_d	http://cityte.ch/cmmc_e	http://cityte.ch/cmmc_f	http://cityte.ch/cmmc_g

Table 1: Customized short URLs

Currently the CUNY-wide STEM e-resources initiative has led to the change of CINAHL from a locally to consortially procured resource. The STEM-initiative also includes a new subscription for City Tech to IEEE Xplore. The programs at the college are mostly STEM-based and there is higher usage of these e-resources compared to other schools in the CUNY system. Due to this initiative, the college community now has access to pertinent e-resources that were previously not available.

Prior to the STEM initiative, City Tech, along with other CUNY libraries, subscribed to CINAHL to support research at schools with robust nursing departments. The STEM initiative provides access to CINAHL university-wide. The nursing department at City Tech is one of the largest and most competitive programs at the college. CINAHL is the primary research database that is used in this program and was subscribed to at the local campus level before the STEM initiative made it a consortial subscription. It was already well used and the researchers wanted to discover if the usage could be further improved.

City Tech has extensive programs in engineering fields, so IEEE Xplore was chosen for this study. City Tech has an IEEE Club, so IEEE is known to many engineering students. The researchers wanted to determine if statistics could be improved through additional promotion of this resource. IEEE Xplore was a new resource for City Tech due to the STEM initiative. This resource shows high use in comparison to the other CUNY schools. This may be due to the heavy emphasis on technology.

CMMC is the primary research e-resource for the growing Communications Design Program. Not part of the STEM CUNY consortial agreement, this resource is locally funded. Since the cost of this resource is not shared with other CUNY campuses, it is even more important to communicate its specific value to City Tech.

Marketing Platforms

For this study, the City Tech Library selected marketing venues that were either free or low-cost. They had already invested significant resources into developing content for the library blog, social media, and print materials. While promotion on the front-facing library website has been proven to work in the literature (Rogers and Nielsen, 2017), e-resources were not originally promoted on the City Tech Library website homepage due to lack of space. In the future, the library may choose to redesign the home page of the website to include real estate dedicated to promoting library resources using short URLs. This would be redesigned with real estate dedicated to their promotion.

Each of the three e-resources were promoted using the following platforms: print flyers, email, library blog, social media platforms, and LibGuides. Each e-resource had their own distinct advertisements for each corresponding outlet.

Print flyers

Print flyers (Appendix C) were posted on bulletin boards near the heavily-used elevators in one of the primary classroom buildings. The other buildings on campus have limited posting opportunities due to administrative restrictions, such as stamped approval, and the physical lack of bulletin boards.

One of the reasons we selected to use print flyers is because of their wide use throughout campus. Academic and administrative departments, students clubs, and other groups, have used print flyers over the years. It is even common to find layers of flyers that go back to previous semesters. The flyers are also used to promote a variety of library services, events, and workshops. It appears based on the content of the flyers themselves, that the intended audience are undergraduate students. The location of these flyers are usually at a point of active traffic, including stairwells, elevator banks, outside restrooms, department offices, and building entrances.

The flyers of the study were designed in Canva (<https://www.canva.com>), a browser-based graphic design website that can be used to create print flyers, social media images, and other promotional materials. Flyers were then printed in color on 8 ½" x 11" paper.

The flyer for IEEE Xplore is an example of user-centered promotion (Figure 1). The graphic is appealing because it is reflective of the intended audience's experience studying in a major metropolitan area. It has a background image of a busy New York street. The flyer depicts skyscrapers and taxicabs, which represent the City as an engineered space, reflecting where the school and the students are geographically located. This advertisement places IEEE Xplore in the context of the City and students' everyday experience. The short link for this particular resource is situated at the bottom of the advertisement. As the user's eyes are drawn to the image, they will eventually scan down and see the URL. It should be noted that there was no distinction between advertising design or the short link as an indicator of what appealed to students.

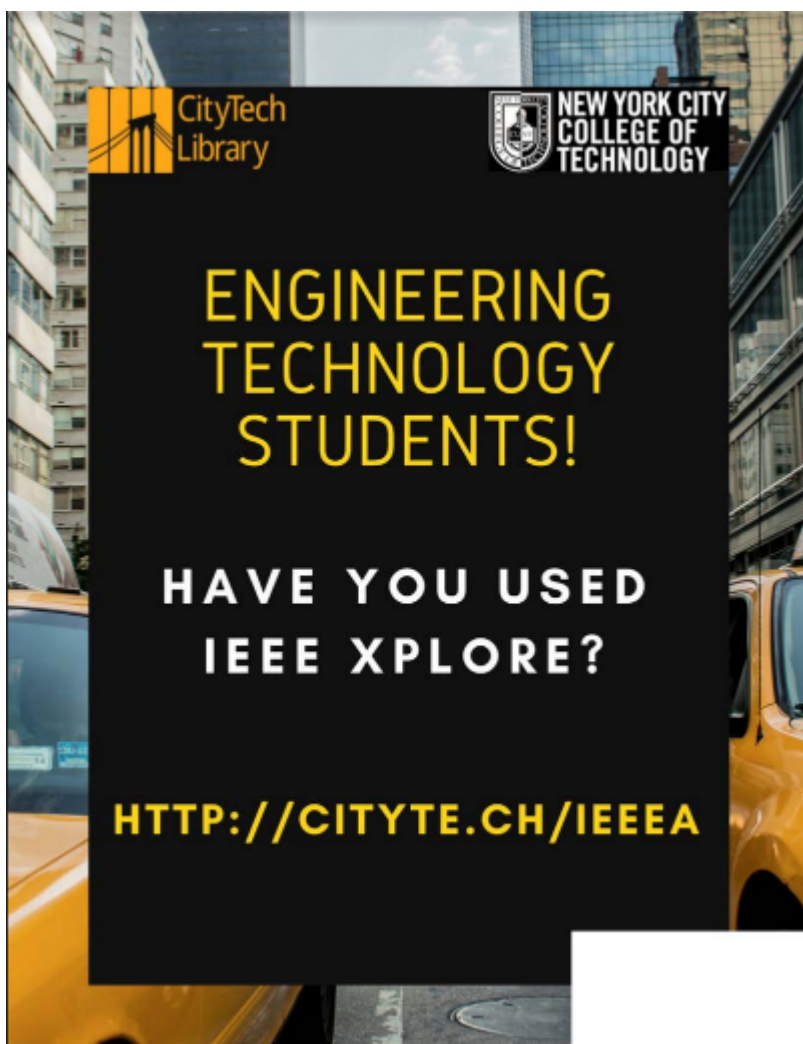


Figure 1: Print flyer for IEEE Xplore

Emails

Mass emails to students and faculty can be sent on a regular basis to promote e-resources. The library had to set a balance between sending out too many emails to the point that they are ignored as spam, versus sending so few that the e-resources are unknown to the community.

At City Tech, there is no option for students to opt out of college distributed mass emails, creating a captive audience. On the other hand, the library does not control student email distribution lists. Approval from higher administration is required to send mass emails.

Even though there is a presumption among City Tech administrators that students find mass emails from the college to be spam, and do not open them, the library chose to proceed with email because the City Tech community cannot opt out of college email. However, they did limit their email communications for this study to a single email with information about and links to the resources to all students, faculty, and staff (Appendix A).

Library Blog

LibraryBuzz (<https://library.citytech.cuny.edu/blog/>) is the City Tech Library's blog. It focuses on communicating library news, resources, and services primarily to faculty at City Tech and other academic librarians at CUNY. E-resources were promoted on the blog via a text-based post to discern if users were reading and utilizing content on that platform (Appendix B). The links were strategically placed after short readable blurbs about each e-resource. The content was similar to the mass email that was sent to the entire City Tech community. As compared to email, the blog follows an opt-in model. In other words, subscribers are voluntarily accessing the content, demonstrating that they are already interested in the library and its offerings.

Social Media

The library has social media accounts for Facebook, Twitter, and Instagram. These feeds are populated with content from library class trips, promotion of resources and services, and engagement with students at library and college events. The digital flyers (Appendix D) for social media outlets were also designed in Canva with specific size specifications for each outlet. We chose to promote e-resources via social media outlets because we were already promoting resources via these outlets and we were interested in whether social media accounts were being used in comparison to other promotional avenues. Twitter flyers were sized 1024 px x 512 px. Instagram flyers were 800 px x 800 px. And the specifications for the Facebook flyers were 940 px x 788 px.

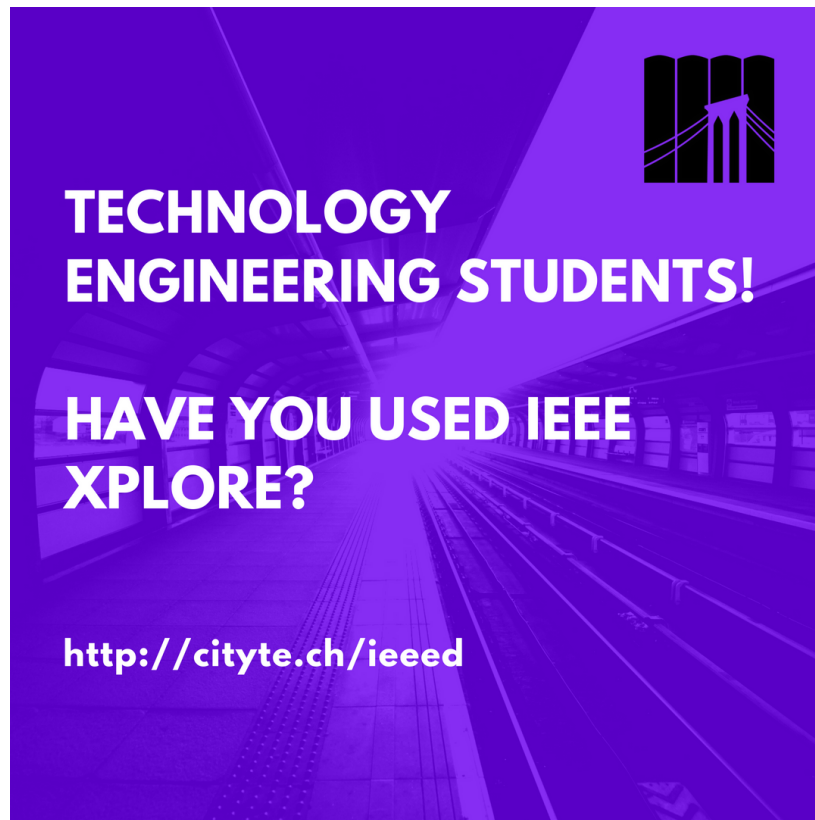


Figure 2: Instagram Flyer for CINAHL

Instagram is a mobile photo sharing social media platform primarily used on mobile devices with touch screens. Hyperlinks are inactive in captions of Instagram images and the most efficient way to access the resource is to provide a short and memorable link that users would need to manually type or copy and paste. This example Instagram post for CINAHL (Figure 2) promotes this resource to students in the health sciences through the use of a shortened URL. The black and white contrast is intentional, emphasizing the short URL text against a fixed background. It is especially important to convey a clear, concise message on Instagram, which includes the use of short URLs, because digital flyers are restricted in size.

Another example of a social media flyer is this example for CMMC (Figure 3), designed for Twitter, a microblogging service. In this flyer, a student is studying in what appears to be a cafe. This post is meant to relate to students for whom the act of studying is part of their daily experience. As with all library promotional material, the library logo is present in the design, which associates the flyer with the brand identity of the library. Twitter can be a noisy social media network where the feed is constantly updating and the library logo is important as a memorable visual component.



Figure 3: Twitter flyer for CMMC

LibGuides

The LibGuides platform is used by the library to create subject and class-specific guides to assist students in navigating library resources by discipline. On this platform there is an A-Z database list. E-resources are saved as assets in the platform and these assets are mapped to various pertinent guides. Links to the resources in the asset were changed to a new short link for this study, to enable tracking via this specific outlet. From the screenshot (Figure 4), you can see the database asset for CINAHL. The link in the asset was changed to reflect the specific short link assigned to that resource and platform. In this example, the link was <http://cityte.ch/cinahlg>. For CINAHL, there was no active mapping to existing LibGuides.

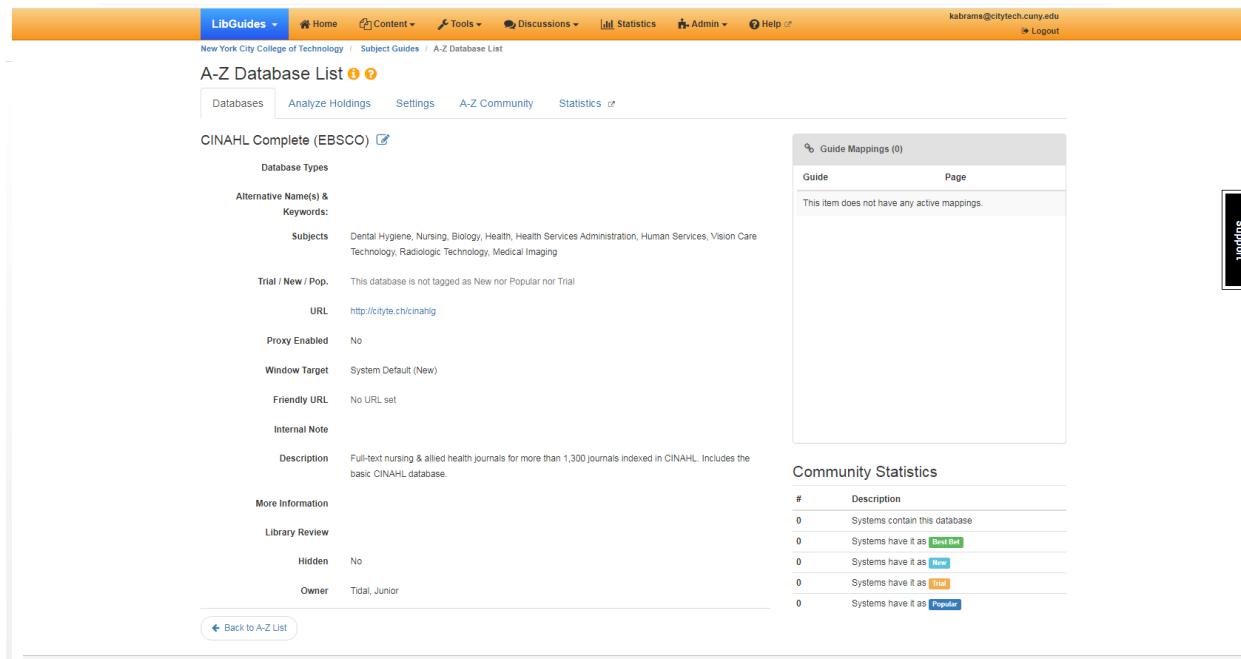


Figure 4: LibGuides database asset

Results by Resource and Platform

Of all three resources, CINAHL recorded the highest number of clicks. Email worked best in promoting the resource, registering 76 clicks during the study, followed by Twitter with 62 clicks, and the blog with 22 clicks. Instagram and Facebook lagged significantly behind with 13 and two clicks respectively. LibGuides was second to last in ranking among the platforms with only four clicks.

The results for IEEE Xplore follow different trends than CINAHL, and the most significant differences can be seen in the relative clicks for print flyers, email, and the blog. Twitter ranked first out of all promotional venues for IEEE Xplore with 51 clicks and the blog came in second with 36 clicks. Print flyers resulted in 22 clicks over the course of the study, which is more than the print flyers received for CINAHL and CMMC combined. Email interactions were much lower in comparison to CINAHL, resulting in 19 clicks. Instagram and Facebook lagged behind with 12 and five clicks. LibGuides also trailed usage with only three clicks.

The results from promoting CMMC follow the same trends as CINAHL, highlighting the strength of both email and Twitter, tied with 39 clicks. The blog ranked third with 20 clicks, Instagram garnered 12 clicks, print flyers registered eight clicks, the same number as print flyer clicks for CINAHL, and Facebook fell behind with just two clicks. LibGuides also saw low usage with four clicks (see Figure 5).

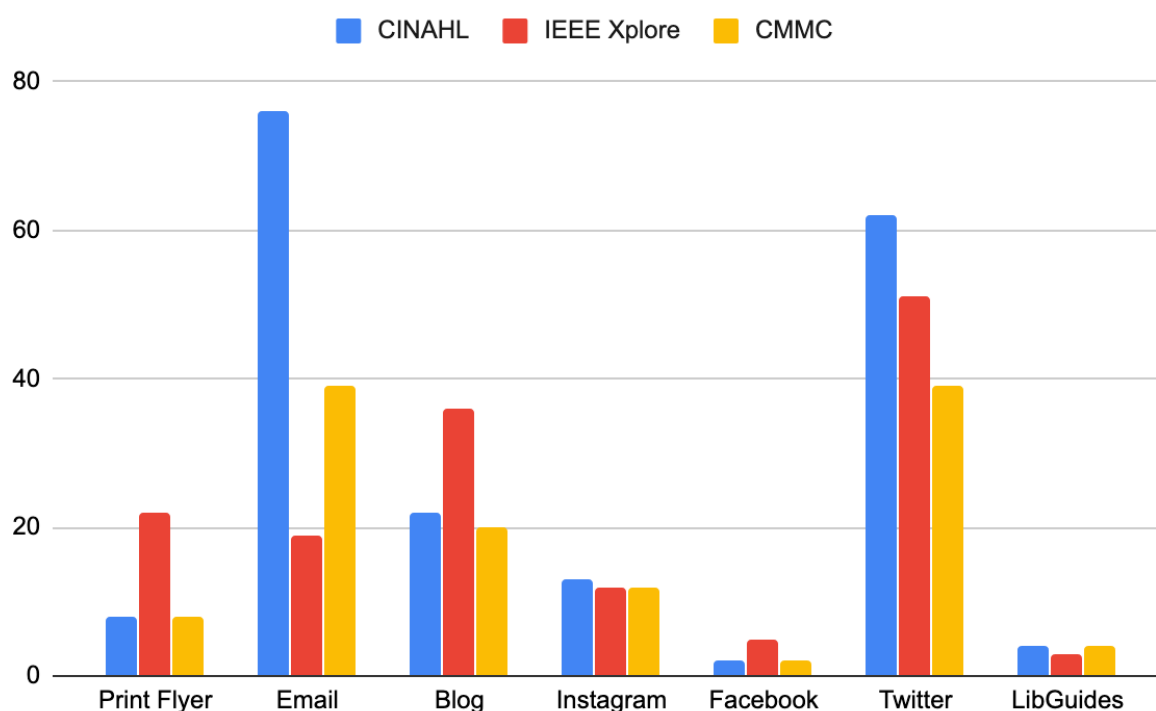


Figure 5: Results by resource and platform

Results by Social Media Platform

The number of clicks on the social media platforms varied greatly (Figure 6). Twitter registered the most clicks among social media platforms for each e-resource with a total of 152 clicks. Instagram was far behind with 37 clicks. Facebook trailed all outlets in the study with only nine clicks. One reason why Twitter may have had more activity in comparison to the other platforms is because the short link was readily available and clickable. Instagram, at the time of the study, did not have clickable links in the post.

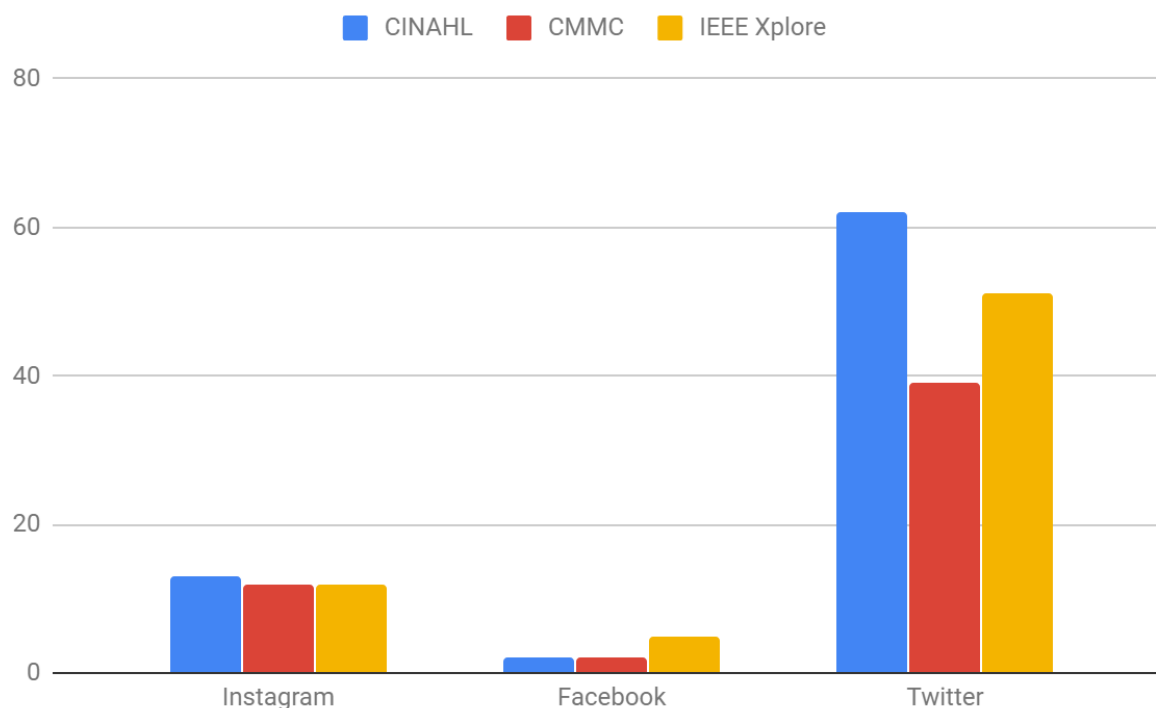


Figure 6: Results by Social Media Platform

A-Z List Links and Study Links Comparison and Results

The A-Z database listing on the library webpage also utilizes short links, but because the researchers did not consider it to be a promotional outlet, they were not tracked for the study. There are some interesting results, however, in comparing the number of clicks of the observed e-resources on the A-Z list web page with that of the promotional short links used on the other marketing platforms (Figure 7). CINAHL was the only resource to register more clicks on the A-Z list than the promotions links. In contrast, IEEE Xplore had 148 clicks through the promotional links and 89 clicks registered on the A-Z list. CMMC received 124 promotional link clicks, in comparison to 55 clicks through the A-Z list.

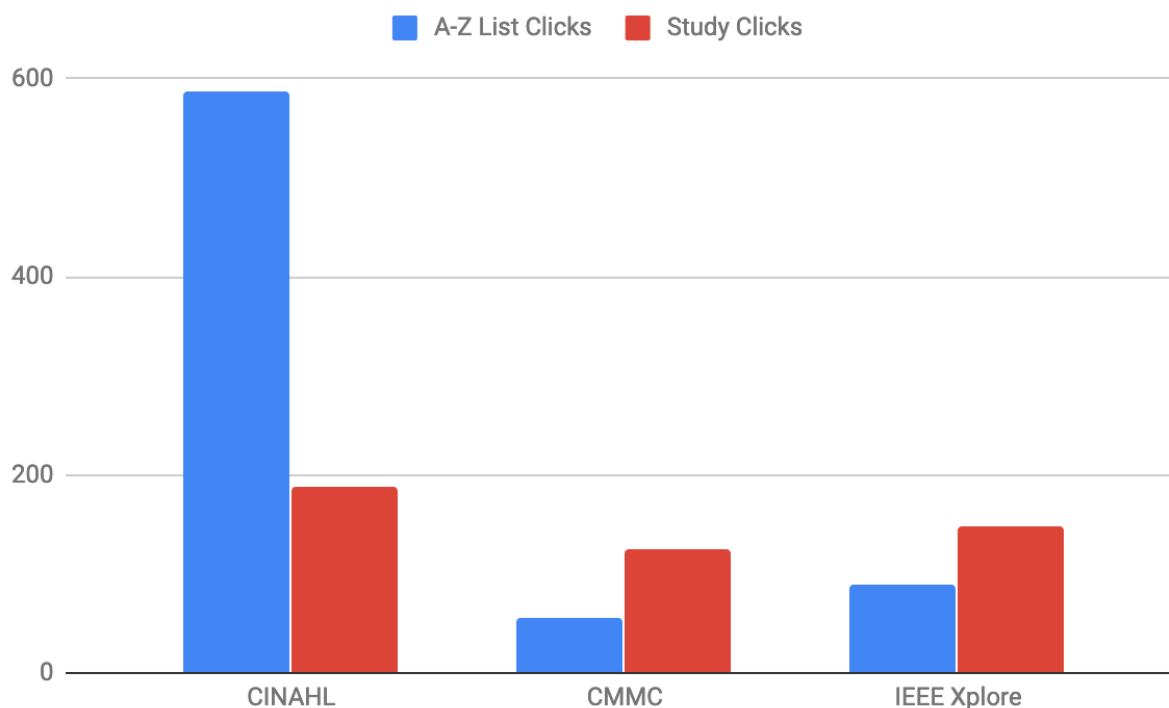


Figure 7: A-Z Links in Comparison with Study Links

The number of visitors accessing the e-resources via the A-Z list decreased when comparing the same two months from two different years. It should be noted that in 2017, the resources were not actively promoted. There were significant decreases in clicks for CINAHL and CMMC (Figure 8). In September-October 2017, CINAHL was accessed 718 times via the A-Z web page. However, when the study was conducted in 2018, the total number of clicks was only 572. IEEE Xplore saw equal usage with 79 clicks during the two-month period for both years. CMMC also saw a decline, from 75 in 2017 to 60 in 2018.

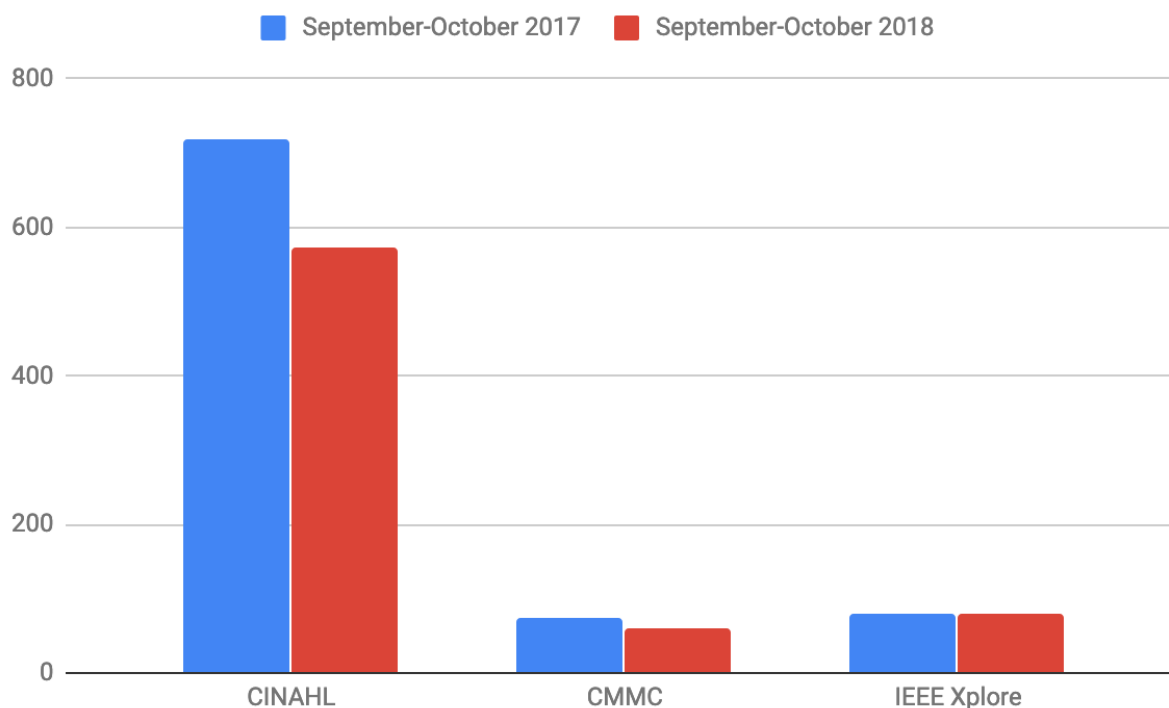


Figure 8: Comparison of A-Z list clicks in 2017 and 2018

Comparisons of the total usage data for the three resources from September-October 2017 and September-October 2018 pointed to mixed results (Figure 9). During September-October 2017, CINAHL registered 6,787 article requests but during the same period in 2018 had only 5,355 article requests. CMMC followed the same trend on a smaller scale with 268 article requests in 2017 versus 214 article requests in 2018. IEEE Xplore was the only resource that registered increased usage with 126 article requests in 2017 and 171 article requests in 2018.

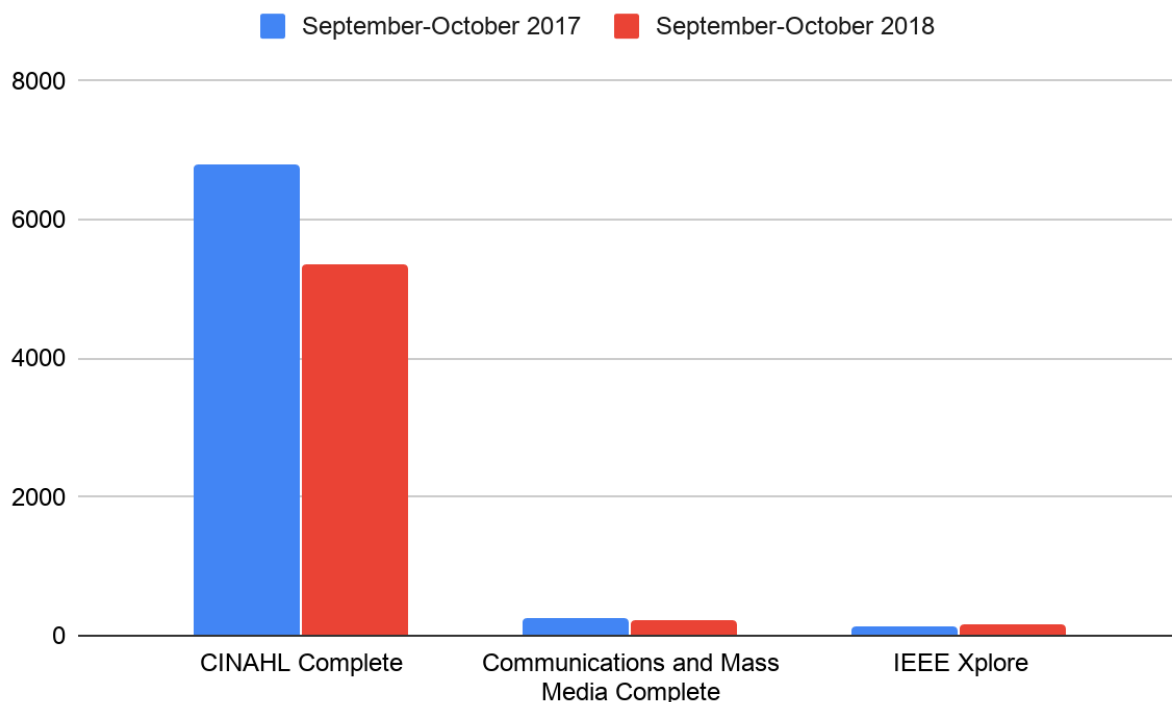


Figure 9: Usage Statistics

Compiled Results

Below is a ranking of outlets by number of clicks among all three e-resources (Table 2). This information is useful, because it shows what platforms are successful in promoting e-resources and which platforms have need for improvement. The top three platforms, Twitter, email, and the library blog, are more textually based and readily have short links embedded in the messages. In comparison, the print flyers and Instagram require users to manually type in the short links. This may also indicate that users do not necessarily engage image-based advertisements of e-resources or it may also indicate that the Instagram flyer that was posted utilized too much text. Low usage for LibGuides and Facebook require more attention and promotion. This may not be possible for Facebook as the City Tech Library has discontinued the use of that social media network. This ranking also demonstrates where our users are which calls for further efforts to meet them in their digital environment.

Social Media Outlet	Clicks
Twitter	146
Email	134
Blog	78
Print Flyers	38
Instagram	37
LibGuides	11
Facebook	9

Table 2: Compiled Results by Marketing Outlet

Usage Statistics

Findings and Discussion

The data indicates that Twitter is the preferred marketing outlet for City Tech Library end users. In addition, the effectiveness of Twitter, especially in comparison to Instagram, may be in part due to the fact that Twitter posts can directly link to other resources and integrate short URL functionality.

The researchers expected that email would be the dominant form of promotion. It seemed to have the widest reach because students are required to have college email and cannot opt out of mass emails. However, email was only the second most utilized avenue in the study. Administrators had told faculty librarians that students consider email from the library to be spam. As a result, there is strict access to sending out emails pertaining to library services student-wide. Due to the library faculty's lack of ability to send mass email messages to all students, there needs to be an even greater emphasis on opt-in promotional models such as social media, and/or the Library Buzz blog that focus on content marketing. In the future, data should be collected to determine if users are more likely to utilize links in twice-yearly digests or service-specific emails. Further research should be conducted to determine if students consider email from the library to be spam. While email was a popular outlet, it should be noted that the resource was accessed primarily on the first day the email was sent. After that initial interaction date, clicks to promoted e-resources dropped off dramatically.

The blog was the third most utilized outlet. The activity recorded from users accessing the blog demonstrates the importance of opt-in content marketing. Over the course

of the study, the level of activity was consistently registered which may indicate that readers are accessing the blog at different times rather than when the entry was first posted.

Print flyers ranked fourth among promotional outlets. The low number of clicks may be due to the inefficacy of short URLs on print media, rather than the ineffectiveness of print flyers. The full impact of print flyers is harder to isolate since the link cannot be clicked on or copied and pasted. However, the results show that students interacted with links, taking the extra step of typing in the link into their device, via the print flyers throughout the study. This consistency might mean that print flyers are viable for e-resources or other library services, even with a lower number of direct clicks. Future research may also examine if students use Smartphones to take pictures of promotional flyers with short URLs to be used at a later time instead of when first encountering them.

Instagram registered a relatively low number of clicks, highlighting the need to develop content that appeals to those users. It could also be indicative of the platform's limitation of non-hyperlinked URLs in captions, which has been recently changed. It is now possible to include hyperlinks in Instagram profiles and it may be a more worthwhile avenue to direct users to the library website linked within the profile, then promote e-resources on the homepage. Additional research may be needed to determine if using the platform to market individual resources or the homepage to be more effective.

While the overall numbers were fairly low for Instagram, Facebook was by far the least accessed social media outlet. Facebook has seen declining use due to its many legal, ethical, and privacy concerns (Singer, 2019). Due to this sharp decline in usage amongst the general public and City Tech students, the PROM committee made the suggestion to the Library Department to discontinue its use.

Across e-resources, LibGuides registered very low numbers indicating the need to enhance the research guide platform to promote e-resources. This is done by mapping e-resources to pertinent LibGuides and to encourage students to use them for discipline-specific content discovery. The platform could become a more popular destination for the discovery of e-resources if guides are increasingly enhanced and promoted. For instance, it is important that the guides be updated and expanded to best meet the needs of student researchers. Additionally, the college is promoting LibGuides through a recent integration with Blackboard, the university's learning module system (LMS). If a subject-specific LibGuide has been created, it will be automatically embedded into corresponding courses as a widget, making it more prominent. However, due to the newness of this integration, it

remains to be seen if usage will increase. It should also be observed how students engage with promoted e-resources through LibGuides, and would be worthwhile to investigate further if students access the guide and choose (or not choose) to click on links to e-resources.

The decrease in the number of link clicks via the A-Z webpage is confounding and again raises the question, “does anyone pay attention to our efforts?” Is marketing in libraries a moot issue, or can the City Tech Library enhance its marketing program to increase usage? Promotion does not work alone and is only part of a larger marketing plan. Through isolating promotion in this study, the researchers found that a more comprehensive content marketing plan could increase overall e-resource usage.

CINAHL recorded higher usage via the A-Z list in comparison to the short URLs for this study. Based on conjecture, most of the promotion is happening in the nursing department, which requires significant undergraduate student research. Both CMMC and IEEE Xplore have a higher number of clicks among the marketing study links in comparison to the general A-Z list web page. These resources have an even greater need for promotion because they are not widely utilized.

The results for IEEE Xplore and CINAHL show that end users in various disciplines have significant differences in outreach preferences. One platform will not necessarily work for all resources. It also appears that IEEE Xplore users are much more likely to type the short URL from a print flyer into a browser in comparison to CINAHL or CMMC users. One possibility may be that IEEE students are more apt with mobile technology because those users are most likely to be engineering technology students. However, it requires further observations if this is true. In an effort to appeal to particular groups of students or those within a discipline or field, it would be helpful to further understand the audience’s preferences when it comes to promotion. For instance, would graphic and communication design students be more likely to engage image-based advertising?

Suggestions for Improvement and Further Research

For further research, it would be interesting to know whether short URLs on the front page of the library website would increase usage. This would replicate findings in the literature (Rogers and Nielsen, 2017) as well as discover if advertising on the library front page is primarily temporal or increases usage over time. Click heatmaps, a visual overlay that highlights what section of a web page is most clicked on, could be employed to determine if

the placement of e-resource promotion on the homepage is effective. Additionally, future usability studies of the library website could include task-based cognitive walkthroughs to understand if users utilize advertisements versus the menu system of the website to access e-resources.

It would also be interesting to observe if e-resources promoted in the classroom via short URLs increase usage due to greater faculty buy-in. Because numerous classes utilize Blackboard, it would be interesting to discover if usage increases with integration with LibGuides. Another avenue of promotion may entail instructors advertising in-class or through LibGuides for specific research projects and homework assignments. The scope of this observation could be wide for an interdisciplinary e-resource or narrow for a class-specific one.

Another future research improvement to consider is whether the development of content on lesser utilized social media platforms would increase usage of e-resources over a period of time. The work of building digital relations with the student body, such as following users back on social media, responding to comments, and developing desired and pertinent content, may seem indirectly related to e-resource promotion. However, it is part of a larger pedagogical marketing model in which quality relations with students and faculty may result in greater and sustained use of library e-resources.

Lastly, another avenue to consider is the type of advertising on a particular device. For example, since Instagram is primarily used on mobile devices, do those mobile users have more levels of engagement in comparison to desktop users? It may also be useful to explore student populations that are dependent on Smartphones for Internet access. Are those users able to use e-resources in a similar fashion to their desktop counterparts? If not, this may call for a need to create specific short URLs to mobile apps and examine those avenues of promotion.

Conclusion

Through the promotion of e-resources through short URLs, the researchers developed a data-driven picture of users' marketing preferences. Click analysis can be interpreted as an equivalent to a tally system, tracking preferences in previous promotional models. This study fills a gap in the literature in which short URLs are utilized to track usage of marketing outlets advertised specifically to an academic community. However, click analysis is only part of the larger picture. Attention must be paid to other parts of the marketing cycle in

order to create a holistic marketing plan. This study may be applicable at other institutions and may shed light on how users interact with library promotion through print and digital media. These findings can help identify what library e-resource marketing techniques work, what needs improvement, and allow institutions to tailor their efforts to both the most effective outlets and those that see less use.

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Appendix A

Promotional Email

Subject: Nursing, Engineering, and Communications Resources

Welcome new and returning faculty and students! There are many exciting library resources for you to access here at City Tech, and here are three that might be of interest:

CINAHL Complete is an excellent research tool for health sciences students.

<http://cityte.ch/cinahlb>

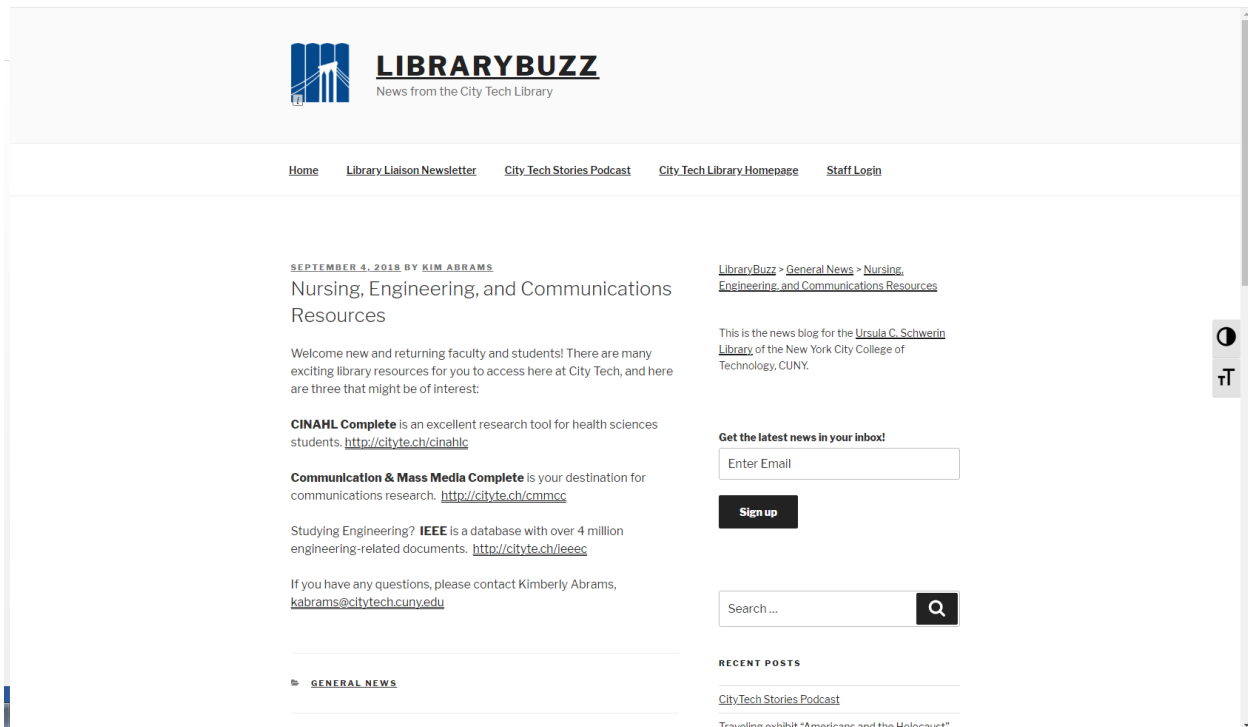
Communication & Mass Media Complete is your destination for communications research. <http://cityte.ch/cmmcb>

Studying or teaching engineering? IEEE is a database with over 4 million engineering-related documents. <http://cityte.ch/ieeeb>

If you have any questions, please contact Prof. Kimberly Abrams,
kabrams@citytech.cuny.edu

Appendix B

Promotional LibraryBuzz Blog Post



The screenshot displays the LibraryBuzz website, which serves as a news source for the City Tech Library. The header features the LibraryBuzz logo and a navigation menu with links to Home, Library Liaison Newsletter, City Tech Stories Podcast, City Tech Library Homepage, and Staff Login. The main content area is titled "Nursing, Engineering, and Communications Resources" and is dated September 4, 2018, by Kim Abrams. The post welcomes new and returning faculty and students, highlighting three key resources: CINAHL Complete for health sciences research, Communication & Mass Media Complete for communications research, and IEEE for engineering-related documents. It also provides contact information for Kimberly Abrams. On the right side, there is a sidebar with a "Get the latest news in your inbox!" section featuring an email sign-up form, a search bar, and a "RECENT POSTS" section listing the City Tech Stories Podcast and a traveling exhibit titled "Americans and the Holocaust".

LIBRARYBUZZ
News from the City Tech Library

Home Library Liaison Newsletter City Tech Stories Podcast City Tech Library Homepage Staff Login

SEPTEMBER 4, 2018 BY KIM ABRAMS

Nursing, Engineering, and Communications Resources

Welcome new and returning faculty and students! There are many exciting library resources for you to access here at City Tech, and here are three that might be of interest:

CINAHL Complete is an excellent research tool for health sciences students. <http://citytech.ch/cinahlc>

Communication & Mass Media Complete is your destination for communications research. <http://citytech.ch/cmmcc>

Studying Engineering? **IEEE** is a database with over 4 million engineering-related documents. <http://citytech.ch/ieee>

If you have any questions, please contact Kimberly Abrams, kabrams@citytech.cuny.edu

LibraryBuzz > General News > Nursing, Engineering and Communications Resources

This is the news blog for the [Ursula C. Schwerin Library](#) of the New York City College of Technology, CUNY.

Get the latest news in your inbox!

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RECENT POSTS

[City Tech Stories Podcast](#)

[Traveling exhibit "Americans and the Holocaust"](#)

GENERAL NEWS

Appendix C

Print Flyers



CINAHL Flyer



**NEW YORK CITY
COLLEGE OF
TECHNOLOGY**

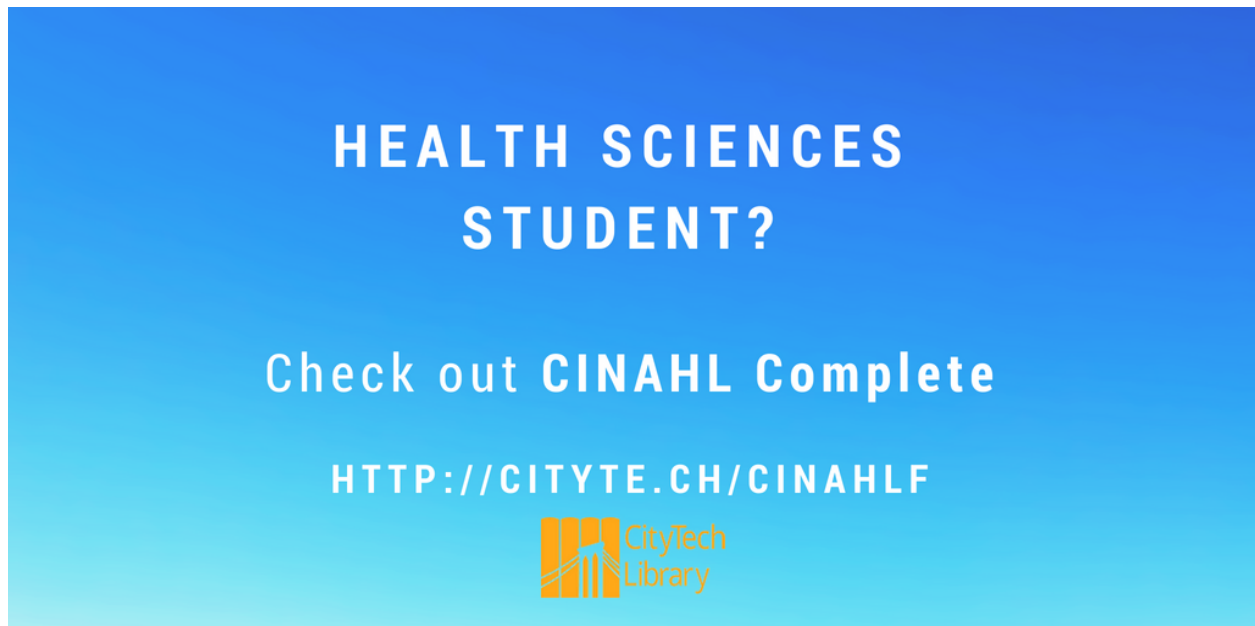
COMMUNICATION DESIGN STUDENTS!

Check out
Communication & Mass Media
Complete for your COMD
research needs.
<http://cityte.ch/cmmca>

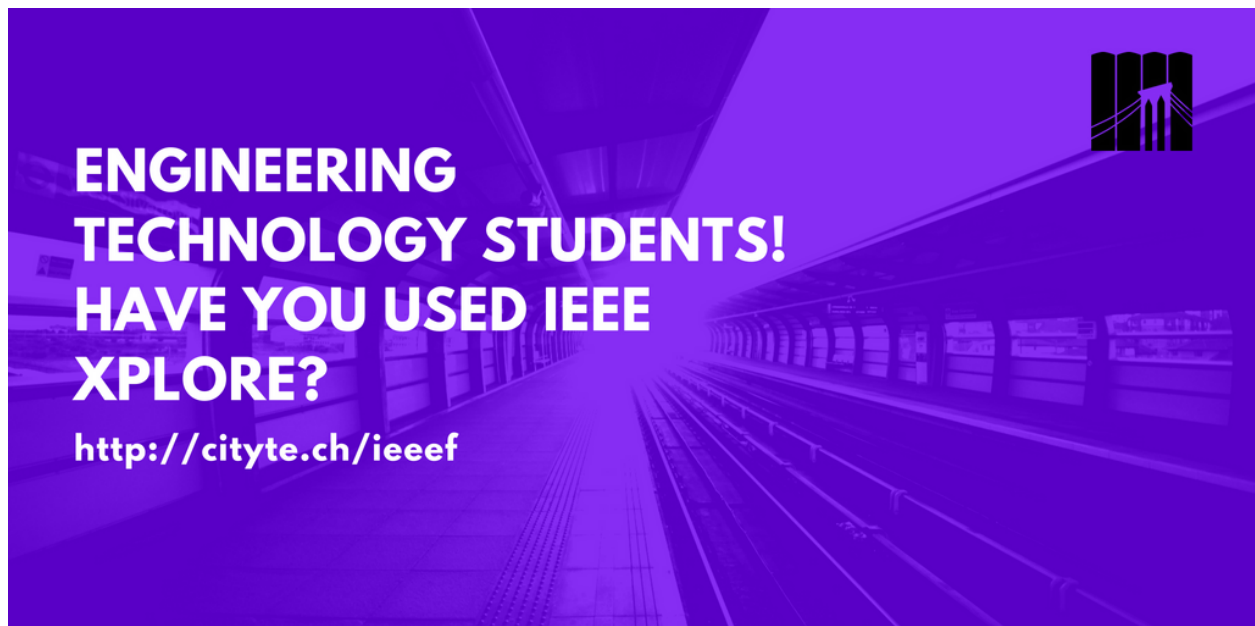
CMMC Flyer

Appendix D

Digital Flyers for Social Media



CINAHL Twitter Flyer



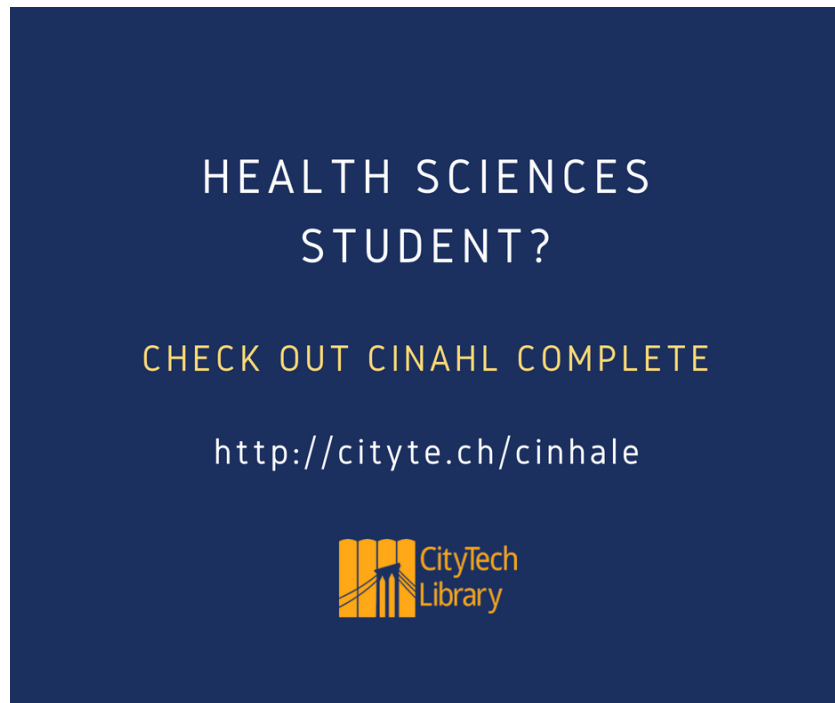
IEEE Twitter Flyer



CINAHL Instagram Flyer



CMMC Instagram Flyer



CINAHL Facebook Flyer



IEEE Facebook Flyer



CMMC Facebook Flyer

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