Melanie A Sturgeon. Marketing to an Engineering School: Promotion of Library Resources, Services and the Subject Librarian. A Master's Paper for the M.S. in L.S degree. April, 2012. 74 pages. Advisor: Rebecca Vargha

The communication between the library and the school of engineering needed to be reestablished a few years after the dedicated engineering library was consolidated with the main library at a small private research university. To accomplish this, a marketing plan was developed to promote available library resources and services including the engineering reference librarian to the engineering students and faculty. The plan was developed by following the steps of a business marketing plan that was adapted for non-profit service organizations. These steps included identifying the target user groups, evaluating the status quo with a SWOT analysis and using a Qualtrics web survey to further understand and define the user groups and their needs. The information from the market analysis was then used to create a promotional marketing program aimed to influence engineering students, faculty and staff to increase the use of library services and improve information literacy.

Headings:

Academic libraries -- Mergers

Engineering libraries

Information literacy

Libraries & propaganda

Libraries -- Marketing

Library orientation for engineering students

MARKETING TO AN ENGINEERING SCHOOL: PROMOTION OF LIBRARY
RESOURCES, SERVICES AND THE SUBJECT LIBRARIAN

by
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Approved by

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Introduction

Background

With constant pressure on budgets in today's economy, universities are forced to constantly re-evaluate library services in order to best meet the goals of the library and university while meeting budget constraints. An area that has consistently been in the middle of these discussions is the opposing theories of using a consolidated library approach or branch libraries. Evolution of technology has made strong arguments for both models of service, however more and more branch libraries are being closed and consolidated as a cost savings measure. Much of the research that has been done on these consolidation projects at universities included lessons learned, best practices and things to avoid. One of the main takeaway points is the importance of communication between the previous specialized user group that a branch library served and the new consolidated library.

At a small private research university, the engineering library, which was conveniently located in the main school of engineering building, was consolidated into the main campus library to cut costs. After the merger, the engineering reference librarian noticed a drop in engineering reference questions, requests and consultations.

Project Aims

The goal of this project is to develop a marketing plan that will promote the engineering reference librarian to the school of engineering students, faculty and staff, thus increasing the use of library services by the school of engineering. This increase can positively influence the success of the students through improved information literacy skills. Additionally, the faculty would receive more support in both instructing the students and with their own research. By supporting the success of the engineering students and faculty through library resources and services, the library is supporting the overall goal and mission of the university.

Literature Review

Library Consolidation & Mergers

The topic of branch libraries and consolidation is so prominent in library science that there are official guidelines for how to evaluate a branch library by the Association of College and Research Libraries (ACRL 1991). These guidelines are discussed and examined with case studies by Madison, Fry and Gregory (1994). The documentation includes a methodology for reviewing the branch in terms of meeting university goals and determining if a centralized or decentralized library system would be better suited. Byrne and Mood (1994) also discuss the criteria for the consolidation of branch libraries. In addition to reviewing the steps, they also address the inconvenience to primary users.

The Association of Research Libraries (ARL) developed a SPEC kit (1999) to aid universities in evaluating service locations and collections with respect to providing the most efficient and effective library service to the campus. An overview of the different theories and practices of over thirty years of library mergers in higher education is discussed by Swanepoel (2004) in a thorough examination of different viewpoints, methods and potential outcomes.

Lessin (2001) reviews the specific challenges and potential advantages of mergers for science and technology libraries. Poland also discusses the integration of science and technology libraries (1999) and address important things to consider such as the unique identity of each library and its users along with addressing user and staff concerns and establishing new communication patterns. The examination of a library merger at Cornell University provides the backdrop for the lessons that were learned and are discussed in detail with recommendations. Czechowski, Barger, Fort and Maxeiner (2010) discuss a case study of a branch library closing at the University of Pittsburgh. They include the steps followed, lessons learned and some advice for those who are facing similar difficult decisions. The most recent research was conducted at the University of North Carolina (Barden et al, 2011) during an evaluation to determine if the four science libraries should be consolidated. The UNC Science Libraries Task Force discovered that the science library patrons were likely to frequent more than one of the science libraries, thereby supporting the merger of science materials. The report also reflected on the task of evaluating the branch libraries, especially in a tight time frame, and provided recommendations for future undertakings.

Engineers & Engineering Libraries

The information use of engineers and engineering students has been extensively researched. The primary expert in this area is Pinelli (1991, 1993, and 2001). His insights into personality characteristics of engineers and their information patterns has helped shaped how librarians interact with engineers and engineering students. Conkling and Musser (2001) provide a series of articles about engineering libraries in the book Engineering Libraries that includes resources, collection development, digital and web

applications, information competencies and management. This collection of articles is not only an emphasis on what library products and services are needed for engineering students, but also what skills engineering students need to possess for industry today. These skills consist of knowing how to find engineering journals and scholarly articles along with the use of patents, safety and industry standards and guidelines for publication and the use of technology. Also in 2001, Ackerson presented findings on challenges specific to engineering libraries. This includes two case studies to illustrate the problems of research and education in a field where the volume of information and the advancement of technology has become overwhelming.

Duke, Hartman and Locknar (2006) discussed new approaches they implemented at the Massachusetts Institute of Technology (MIT) to reach engineering students. They include the use of new technology and social interfaces including websites, blogs, RSS feeds, and other web 2.0 applications to connect engineering students with the library. An analysis of how to demine if a science-engineering library is meeting the users' needs is laid out by Bender, Chang, Morris and Sugnet (2008) from their experience at the University of Arizona Library. Their article reviews the methodology used and potential application for future planning and implementation. Bracke, Chinnaswamy and Kline (2008) narrow the focus of meeting engineering students' needs in an academic library to the field of reference. Different service models are explored along with pros and cons and lessons learned. Stitz (2010) explores engineering library outreach through the unique perspective of a former engineer who returns to her alma mater as an engineering librarian. She emphasizes the importance of understanding the engineering culture, referencing the work of Pinelli, in order to provide successful outreach.

New research released in 2011 (Engle, Robbins and Kulp) focused on the engineering faculty. They reviewed how the faculty finds and shares information along with the tasks they are doing that requires the information seeking. The data is further broken down into specific engineering disciplines and looks for ways to promote library services to the faculty along with improving collection development to support the faculty's research.

Information Literacy for Engineers

The topic of information literacy for science and engineering has become increasing prevalent over the last decade. Palmer and Tucker (2004) studied how to plan, deliver and evaluate training for information literacy with engineering students. They discuss their types of outreach and what had the most successful results. Also in 2004, Finn and Johnston did a survey about the information literacy skills of engineering graduate students and faculty in regards to using indexes and other primary sources. The ACRL released a new version of their information literacy standards in 2006 that are specific to science and engineering technology. A summary of these standards can be seen in Appendix A.

The new standards have focused much of the engineering and science librarianship research on how to impart these skills. Aydelott (2007) used the standards to develop a critical thinking based tutorial to teach information literacy to engineering and technology students. Her goal was for the students to understand the difference of how to find information versus why to use the information. Hsieh and Knight (2008) paired the ACRL standards with problem-based learning as a way of involving the engineering students and faculty in information literacy. The gap between perceived

information literacy skills and actual skills for science and engineering students was studied by Simard in 2009. She used her research to develop a learner-centered program for both undergraduate and graduate students. A main lesson learned was the importance of support from the faculty. Fosmire (2012) also worked on developing an information literacy model for engineering students. He focused on an integrated concept that was based on active learning with the students and faculty.

Marketing & Promotion

The idea of marketing a library has been around since the 1870's with Melvin Dewey and other founders of library science as Renborg pointed out in 1997. How the need for marketing a library has evolved to the point of being considered essential is discussed by Dempsey (2009). She includes an overview of the marketing life cycle from business literature and how it applies to libraries with specific examples for developing the marketing plan and brainstorming ideas for promotion. Also in 2009, Islam & Islam did a theoretical analysis of marketing not just the library but also the information products and services. Their approach is based on the addition to the standard business marketing plan to include a non-profit customer service orientated model. Islam & Islam tailor this further for information services and library needs with revised steps and considerations. Helinksy (2008) takes a different approach to the business marketing platform, and discusses marketing the librarians instead of marketing the library. She emphasizes expertise, visibility and the importance of personalizing the experience for the user.

Hakala and Nygren (2010) also view library marketing from the standpoint of the user and providing customer satisfaction in university libraries. Another viewpoint of

customer service and user satisfaction is provided by Cundari and Stutz (1995) in a proposal to use the business concept of Total Quality Management (TQM) to meet customer needs.

While marketing literature for libraries has focused on public libraries, Gupta (1998, 2002, 2003, 2007, and 2009) has been studying the use and implementation of marketing in academic libraries for the last many years. Academic libraries have been slow to embrace the need for marketing as the library was always considered an essential part of the university. However, trends for accountability and proof of value in regards to the allocation of budgets have increased the need for marketing the academic library. Empey and Black (2005) utilize the American Library Association's (ALA) "@ your library" marketing platform for their first venture into marketing the libraries at University of Northern British Columbia. This "@ your library" platform has been further developed into a toolkit for academic and research libraries by the ACRL (2007).

Mathews (2009) from Georgia Technological University proposes what he calls, "a bold new approach" for marketing an academic library. He discusses in depth how to get to know the user group and take advantage of knowledge inherent in an academic setting, such as the schedule of activities that students engage in throughout the day, the ebb and flow of the semester and the changes to students needs as they progress through their years at the university. He advocates getting to know the students, addressing their needs, and composing marketing materials and a promotional plan that will work for them.

Methodology

While multiple traditional marketing plans can lend themselves to libraries, the plan proposed by Islam & Islam (2009) takes into account that the library does not only have library products to market but also the services that the librarians provides. It was this type of marketing plan that was followed as the methodology for this project. Islam & Islam, referencing prior work by Mishra (1994-5), use five basic steps to create a marking plan for libraries and information services:

1. Market segmentation
2. Market positioning
3. Consumer analysis
4. Marketing program
5. Marketing audit

Step One – Market Segmentation

The first step of the marketing plan was segmentation. This is a way of breaking up the patrons of the libraries into demographic groups. By defining specific user groups the library wants to reach, it is easier to understand their needs and tailor the marketing plan for them. It is also essential in understanding what requirements they may have of various services and products.

The school of engineering is already a segmentation of the university, with a many traits attributed to the population as discovered in the literature review about engineers and engineering students. Further segmentation could be divided school of engineer into a variety of populations; including by major, level or by nationality.   For this project, the focus was on the graduate students at the school of engineering and employees at the school of engineering. This decision of how to segment the population was based on the research available and prior studies done. Each of these groups can be further defined as:

- School of Engineering Graduate Students

    - o Masters Students

    - o Doctoral Students

    - o Researchers

- School of Engineering Employees

    - o Staff

    - o Faculty

At the university being studied, there were approximately 750 graduate students and 125 employees at the school of engineering. The largest population (approximately 1,200) at the school of engineering was that of the undergraduate students. However, due to a policy at the university, the undergraduate students were not available to participate in the study.

Step Two – Marketing Positioning

In order to create a new marketing plan for the user groups, it was crucial to have a clear understanding of the status quo. This includes defining the products and services currently offered along with what is missing and where else potential users can go for the information. Standard marketing principles from business theory have a variety of templates for doing this analysis. These techniques include:

- SWOT – Strengths, Weaknesses, Opportunities, Threats

- PEST – Political, Economic, Socio-cultural, Technological

- Porter's five forces analysis

- Boston matrix

- Ansoff's matrix

SWOT is probably the most well-known of the techniques, and it is also one that is the most applicable to analyzing the relationship between the academic library and the school of engineering. The basic format for performing a SWOT is shown in Figure 1.
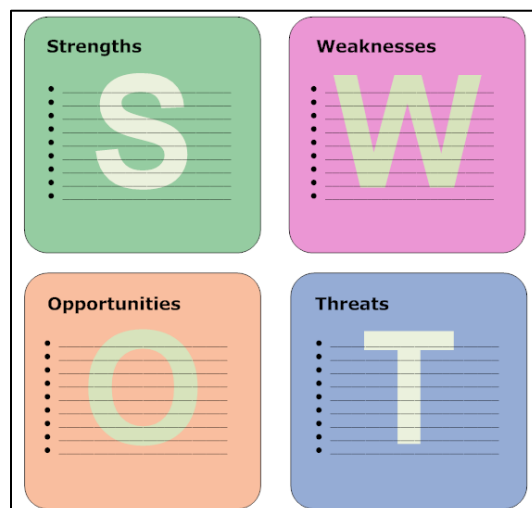

Figure 1: SWOT Analysis

This table was filled out with information gathered during interviews with the engineering librarian, along with a thorough review of resources and services available at the library and through the library's website. This was combined with lessons learned during the literature review to achieve a complete appreciation of the current situation.

Step Three – Consumer Analysis

In order to gain a better understanding of the defined user groups and gather data on their current use and perception of library products and services, a survey was conducted. This review was done by the means of an optional Qualtrics web survey sent to the school of engineering graduate students, researchers, staff and faculty via the listserv. See Appendix B for the survey cover letter email, Appendix C for the reminder email and Appendix D for the survey.

The survey was designed to collect both quantitative and qualitative data through a mix of open ended and closed questions. Qualtrics integrates the use of survey logic, where the questions asked depend on the answers of previous questions. This allows for an easier way to focus the information gathered by affiliation and subject. It also means that the survey length is minimized since users are only faced with questions relevant to them. This results in less time needed to complete the survey and therefore reduces the burden on the subjects. The survey was designed to take less than ten minutes. There were a total of fifty-three questions, with a maximum of forty-four questions that any one participant could be faced with.

The survey questions and answers were crafted to gather information that would tie into the market segmentation user groups and the market positioning done based on

the SWOT analysis. The basic areas being studied were the knowledge and use of the library as place, resources available and services offered. All questions were phrased and biased to focus on information gleaned in the literature review about how engineers use information and what information they need. Specific questions were also asked about the loss of the engineering library and familiarity with the engineering librarian.

Step Four – Marketing Program

After the survey was completed, the results were downloaded into excel and statistically analyzed for areas of significance and correlating factors from the data to aid in the creation of a marketing program. This is also known as the marketing mix. Traditionally, this step is most commonly known as the 'four P's' (Dempsey, 2009) as shown in Figure 2.
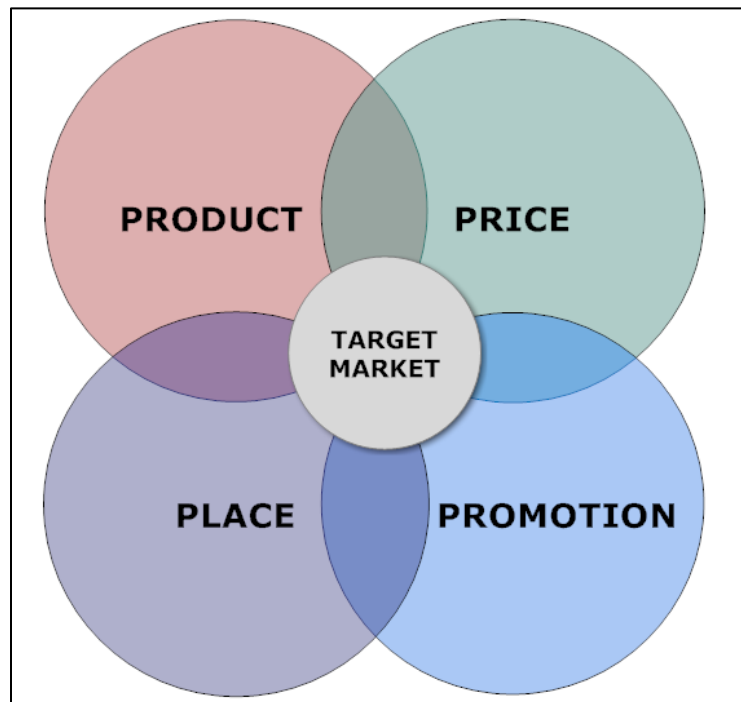

Figure 2: Four P's

However, there is an expansion to that model for customer service industries that is known as the 'seven P's' (Islam & Islam, 2009) and it was decided that this approach would be more useful in meeting the project's goals. Therefore the seven P's were used as seen in Figure 3.

Figure 3: Seven P's

Product.

In this case, the product is both the engineering reference librarian and the library services being offered. These services include assistance in academic research and reference, which can be tailored for engineering students and researchers. Specifically, this is the use of engineering databases to find technical and scholarly articles, how to search patents and use industry standards. There are also many services to support the

staff and faculty in regards to assignments, in-class instruction and assistance with personal research.

Price.

The price, in regards to the students is not defined in terms of money (anything along that line would be covered in their tuition) but instead is defined as the amount of time and effort that the engineering students are willing to invest in using the "product" offered and if it is worth it. The same is true for faculty, where time is important for both their own research and for questions on assignments that they receive during office hours, through emails, and in class questions, on basic information literacy that could be covered by the librarian.

Promotion.

Promotion is the main component of marketing program step that this project focuses on. Promotion is a term that is often confused with marketing, yet it is a distinct part of marketing. According to Dempsey (2009), promotion is, "the actions and techniques you use to develop or increase the demand for a product or service. The goal is that the information gleaned in analyzing the Qualtrics data, from the consumer analysis, step will allow for a specific promotional campaign for the engineering reference librarian and services that will not only appeal to the engineering graduate students, researchers, staff and faculty, but also be useful and produce results.

The promotional campaign is a multi-tiered process that involves building layers of promotion over time to effectively reach the target market. This can include flyers,

giveaways, brochures, advertisement and many other creative ways to promote the library. An example of a possible promotion campaign is illustrated Figure 4 (Mathews, 2001).
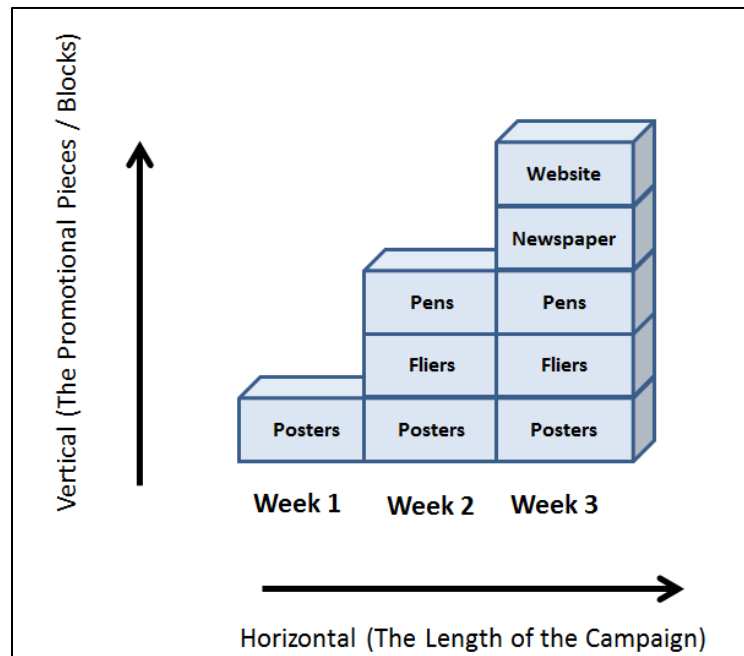

Figure 4: Promotional Building Blocks

Place.

Place, the fourth P in the marketing plan, is typically described as where the service is offered. For this project, place is a complicated matter. First of all, the place is the motivation for this project as the physical engineering library no longer exists. Therefore, instead of thinking of the main library as the place in this scenario, the place is being defined as the school of engineering. While one of the aims is to increase use of the physical library, the marketing plan is really trying to bring library services and information literacy to the people of the school of engineering.

People.

The people for this marketing plan are both the target users as well as the librarians. The interaction of the people is part of the promotion. An example is if the faculty and librarian collaborate on an assignment for students as illustrated in Figure 5. The librarian and faculty and staff all become involved with providing experience in information literacy for engineers.
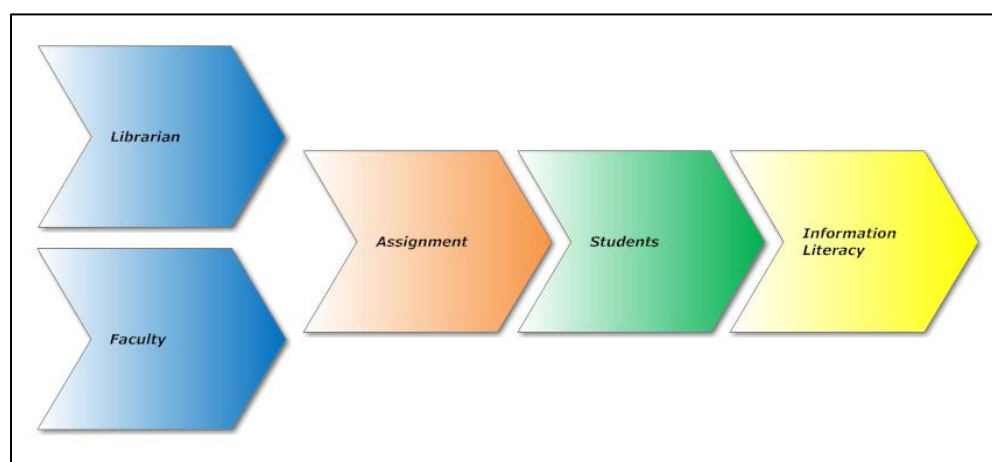

Figure 5: Promotion through people example

Process.

The process in a customer service orientated operation is the delivery of the service. For library services, it is the time it takes to answer a reference question or schedule a consultation. It can also be the delivery of items through inter-library loan (ILL) or availability of resources online.

Physical evidence.

Physical evidence is feedback to the marketing promotion. Examples of this include word of mouth, buzz, recommendations and referrals. One of the best ways to promote, especially with the known information behavior of engineers, is through peers and colleagues.

Step Five – Marketing Audit

Finally, step five of the marketing plan is taking an unbiased appraisal of the marketing program. This includes gathering information on the success (or failure) of the campaign. Evaluating if the goals and objectives of the project were met is crucial, as well as understanding what worked in achieving those goals or what could have been done better. Therefore it will be necessary for this marketing audit to be completed after the implementation of the marketing program. Due to the limitations of this specific project, this final step can be conducted by the university librarians at a future date.

As part of the cyclic nature of the marketing life cycle, as shown in Figure 6, the data gathered will need to be used to improve the process and refine the marketing plan. Another survey of students and faculty may need to be conducted to determine effectiveness of the promotion, and to receive suggestions and feedback. Other data may be gathered for this audit by statistics of reference questions, consultations and service requests received by the engineering librarian. All of this information will then need to be reviewed for how best to incorporate the suggestions in order to make improvements.
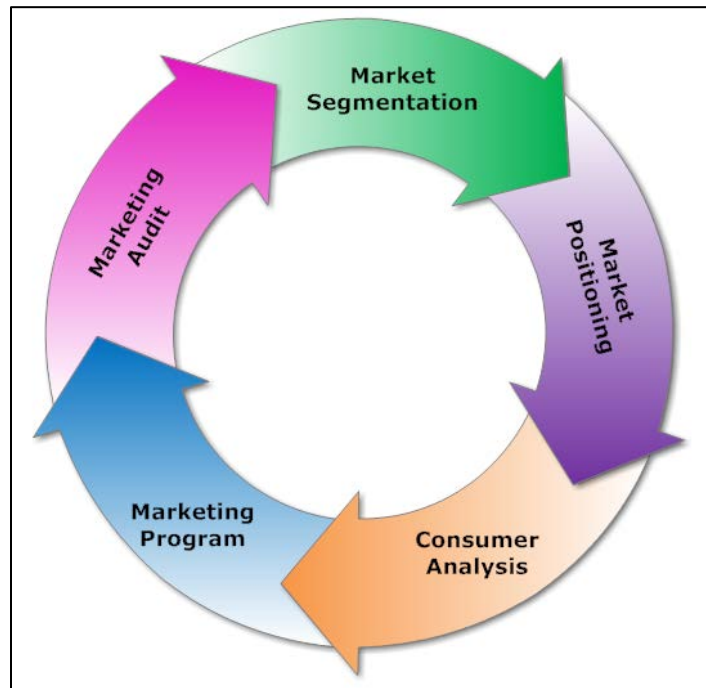
Figure 6: Marketing Cycle

The overall objective of the marketing plan is to continuously meet the users

changing needs and provide the services and resources necessary for the library and

librarian to achieve its objective of reaching the students and faculty and imparting

information literacy. This contributes to the goals and outcomes of the university,

thereby validating the library and librarian and the budget involved in the continuous

operation and growth.

Results

The five steps of the methodology were followed to create a marketing plan. For this project, the goal is to reach the point of recommending a promotional marketing campaign to target the user groups, with the rest of the plan being implemented at a future date by the librarians at the university. The analysis, results and finding from the tasks involved in the five steps are described below, along with a discussion of the lessons learned and how that shaped the marketing plan.

SWOT Analysis

The SWOT table was filled out by taking into account the strengths, weaknesses, opportunities and threats that the university library, and the engineering librarian, identifies in regards to the school of engineering. See Figure 7 for the completed SWOT.

Figure 7: Completed SWOT Table

Survey Findings

The survey was open from February 15, 2012 until February 26, 2012. After the initial email to the listserv, seventy-two subjects responded. A reminder email was sent out on February 21, 2012 and another twenty-six responses were received before the

survey closed, totaling ninety-eight responses. This was approximately an 11% response
rate spread across the user groups as shown in Figure 8. A further breakdown of the
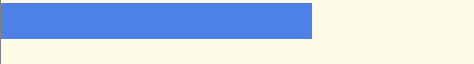graduate students is shown in Figure 9.

Answer		Response	%
Graduate Student		64	65%
Researcher		1	1%
Staff		7	7%
Faculty		26	27%
Total		98	100%

Figure 8: Survey Response by User Group
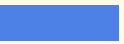
Answer		Response	%
Masters		16	25%
PhD		47	75%
Total		63	100%

Figure 9: Graduate Student Survey Responses

The survey was designed to gather information about the knowledge and use of
the library, resources, and services. Other questions addressed the awareness of the
engineering librarian and feelings about the merger of the engineering library into the
main library. There were key findings in each of these areas that can be used in the
creation of the marketing plan and for areas of improvement for library.

Library.

The first area of interest had to do with familiarity and use of the main university library. A surprising number of people had never been on a tour of the library, as seen in Figure 10. This was unexpected as it was believed that tours were given as part of orientation. Therefore, this identified a gap in perception and need that can be addressed and improved upon.

Answer		Response	%
Yes		19	19%
No		79	81%
Total		98	100%

Figure 10: Q - Tour of main library

The survey also addressed frequency of visits to one of the university's libraries (Figure 11) and the reasons for visiting the libraries shown in Figure 12. This information is helpful to better understand the needs and habits of the user groups, as well as supplying information on location for some of the promotional materials.

Answer		Response	%
0		18	19%
1-2		33	34%
3-6		27	28%
7-14		13	13%
15+		6	6%
Total		97	100%

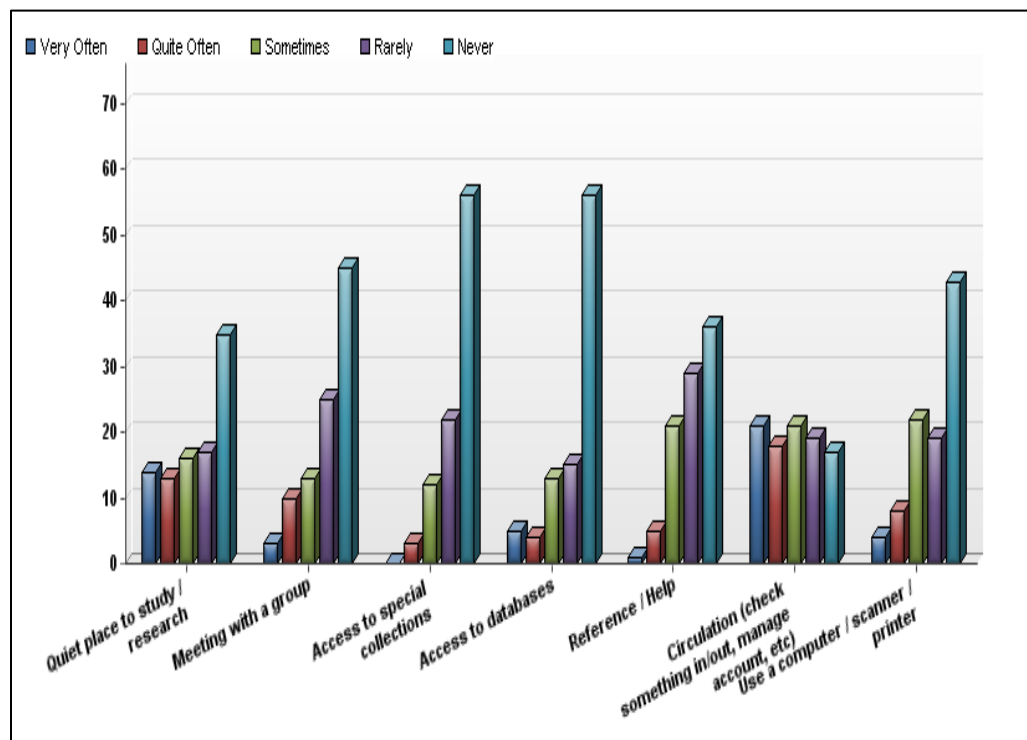**Figure 11: Q - Visits to library in past month**

Figure 12: Q - Reasons for visiting Lib

Resources.

The next area studied in the survey was the use of resources. Information was gathered about the use of print journals, engineering databases and knowledge about ILL and request to purchase materials. The data did not reveal anything significant or unexpected. However, questions about the use of scholarly articles proved interesting. There is a notion that engineering students do not need or use scholarly articles, as revealed in the literature review. As shown in Figure 13, the use of scholarly journals was plotted for graduate students in regards to their current practices and their recollection from undergraduate study. This shows a definite trend that graduate engineering students increasingly use scholarly articles, and also illustrates that the articles were starting to be used in undergraduate studies as well.
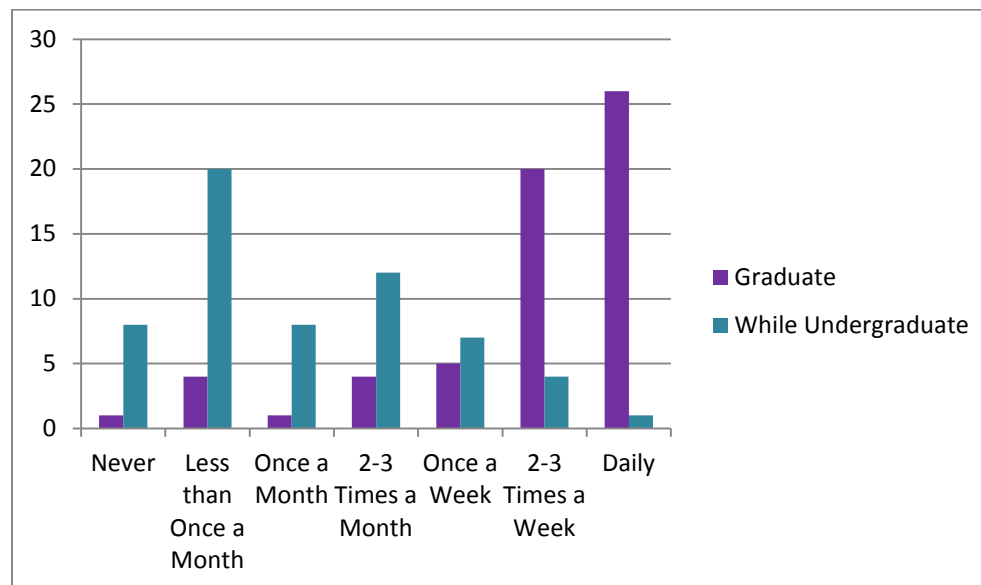
Figure 13: Q - Use of Scholarly articles

Some resources that engineers are known for using were also explored. These include patents and industry / government standards. The results of these two areas are shown in Figures 14 & 15. While the ability to search for patents was relatively high, there is still room for improvement in communicating how to find these resources and the industry / government standards.

Answer		Response	%
Yes		37	59%
No		26	41%
Total		63	100%

Figure 14: Q - Do you know how to search for patents

Answer		Response	%
Yes		16	25%
No		47	75%
Total		63	100%

Figure 15: Q - Do you know how to find current engineering industry / government standards

Other resources that might be helpful to engineering students are tools for journal rankings and citations. Familiarity with ISI Web of Science and Ulrichs were reviewed.

Answer		Response	%
Yes		35	56%
No		17	27%
Not Sure		11	17%
Total		63	100%

Figure 16: Q - Are you familiar with ISI Web of Science for finding journal rankings and citations?

Answer		Response	%
Yes		1	2%
No		57	90%
Not Sure		5	8%
Total		63	100%

Figure 17: Q - Are you familiar with Ulrichs for finding information on journals?

A shared service between the library and university writing center is creating citations for references properly. There are a variety of standards used in the school of engineering for research and paper formatting, which includes how to do both in-text citations and the works cited (bibliography) section. The types of standards assigned and used are shown in Figure 18. The high number of ACS responses was surprising and is a

standard that the library does not currently offer many resources on, whereas APA and

MLA were expected to be the most frequently used.

Answer		Response	%
ACS		18	24%
APA		22	29%
Chicago		8	11%
CSE		2	3%
MLA		23	31%
Turabian		2	3%
Total		75	100%

Figure 18: Q - What citation style / formatting do you use (or assign) most frequently?

There are a variety of programs that can be used to help manage all the

bibliographic data that is collected during research. Most databases allow for direct

exportation of the article citation to the program. These programs then format the articles

correctly to the chosen standard, and help create the bibliography. This is a powerful tool

that engineers can utilize to organize and manage their research. The library and

librarians offer a variety of information, tutorials and instructional classes on some of the

popular programs. Figure 19 shows how many of the respondents take advantage of one

of these programs. The choice of program is then illustrated in Figure 20.

Answer		Response	%
Yes		59	63%
No		31	33%
Not sure		4	4%
Total		94	100%

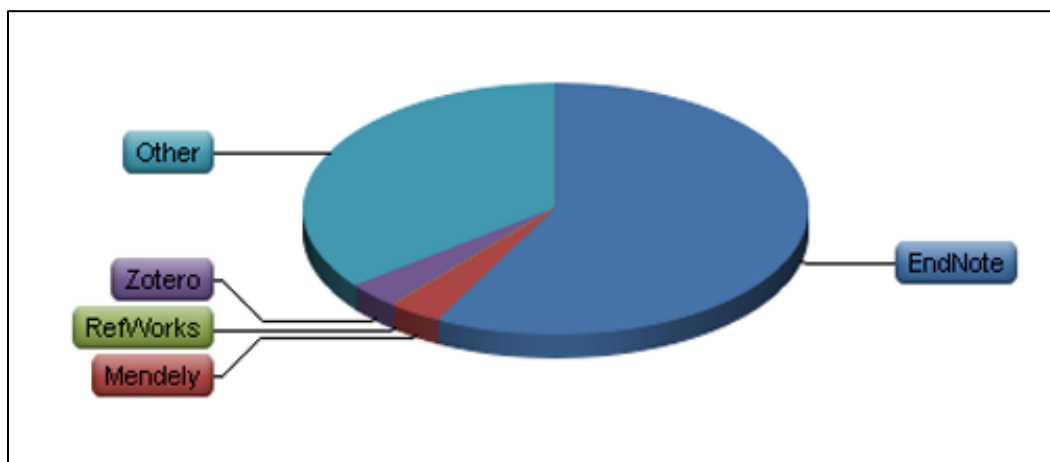**Figure 19: Q - Do you use a bibliographic (citation) management and formatting program?**

Figure 20: Q - What bibliographic (citation) management software do you prefer?

Majority of the 'other' response was a program called "BibTex". This citation information was very useful for comparing to which programs the library offers information and instruction about. For example, the main programs with library resources are RefWorks and EndNote, yet none of the respondents use RefWorks. Understanding these differences can be used as opportunities for the promotional awareness campaign.

Services.

The next section focused on awareness and use of library services. There is an impressive list of services available to both students and faculty. The main ones addressed are reference help, knowledge of subject guides and collaboration between the faculty and librarian.

The percentage of respondents who used the "Ask a Librarian" reference service were lower than expected, as illustrated in Figure 21. However, follow-up questions

about satisfaction of the reference services and if the user would recommend the

reference service to peers or colleagues had more positive results. The categories of

"Ask a Librarian" of IM/Chat, Phone and Research Consultation were all 100% for

recommendation. Email was the only category that was not; with a rate of 89% of
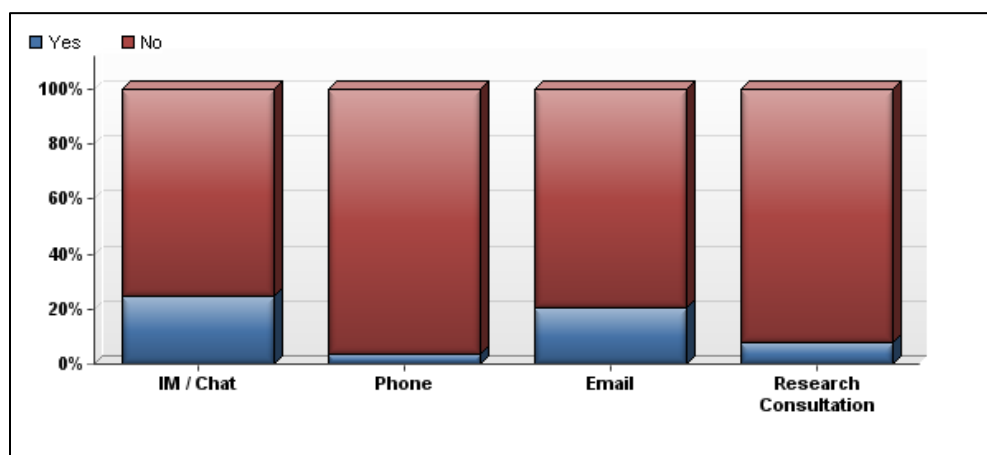
positive recommendation.

Figure 21: Q - Have you used "Ask a Librarian" to get help?

Another service created by the engineering librarian is a variety of subject guides

to help students find and use the resources available through the library. These subject

guides are LibGuide websites that are a collection of references and tips for different

engineering related topics. There are guides available for each specific engineering

major, finding patents, using standards and conducting engineering research. While this

helpful information is readily available, the survey results showed that few knew of their
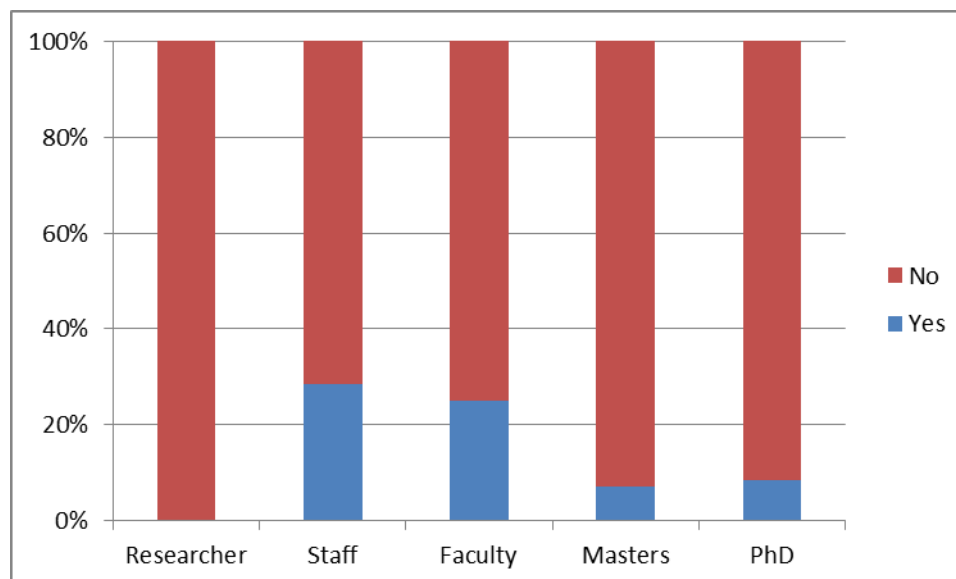
existence, as shown in Figure 22.

Figure 22: Q – Are you familiar with the Engineering Subject Guides?

The other group of services the library and engineering library have are geared towards faculty and staff. The goal of these resources is to assist faculty with various library related tasks. The utilization of this collaboration for different tasks is seen in Figure 23. The in-class instruction by a librarian is further broken down by topic in Figure 24.
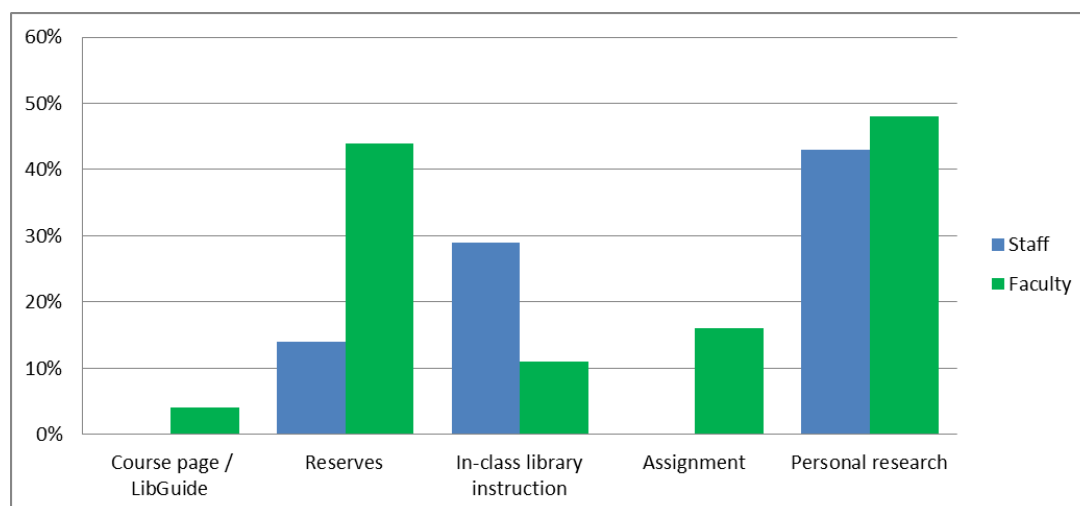

Figure 23: Q – Have you worked with a librarian for the following tasks?
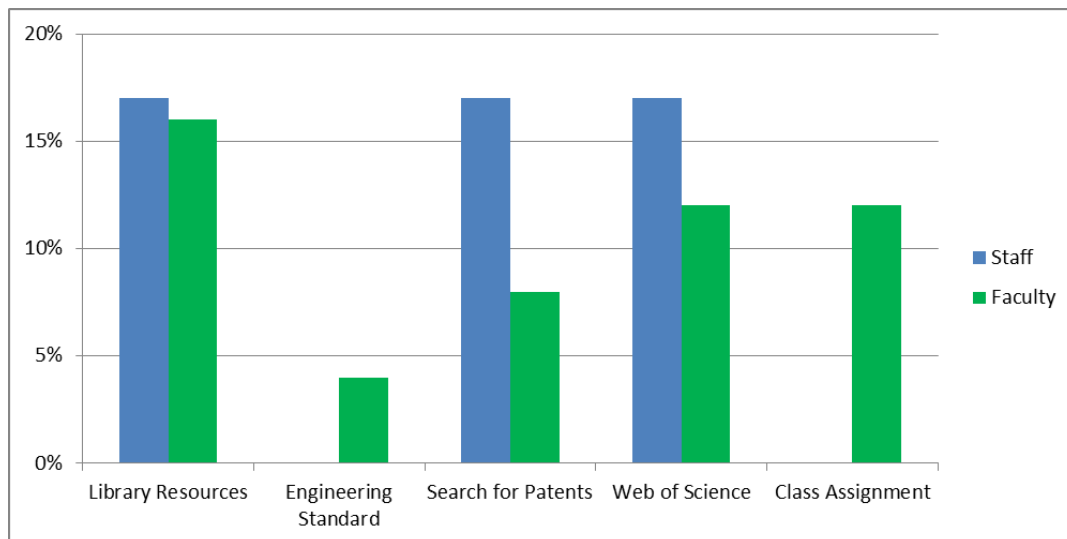
Figure 24: Q – Have you worked with a librarian to have in-class instruction for the following?

Engineering librarian.

One of the most important things that the survey exposed was that majority of respondents did not know that there was an engineering reference librarian. This is shown in Figure 25, and broken down by user group in Figure 26.

Answer		Response	%
Yes		44	46%
No		51	54%
Total		95	100%

Figure 25: Q – Did you know there is an engineering reference librarian?
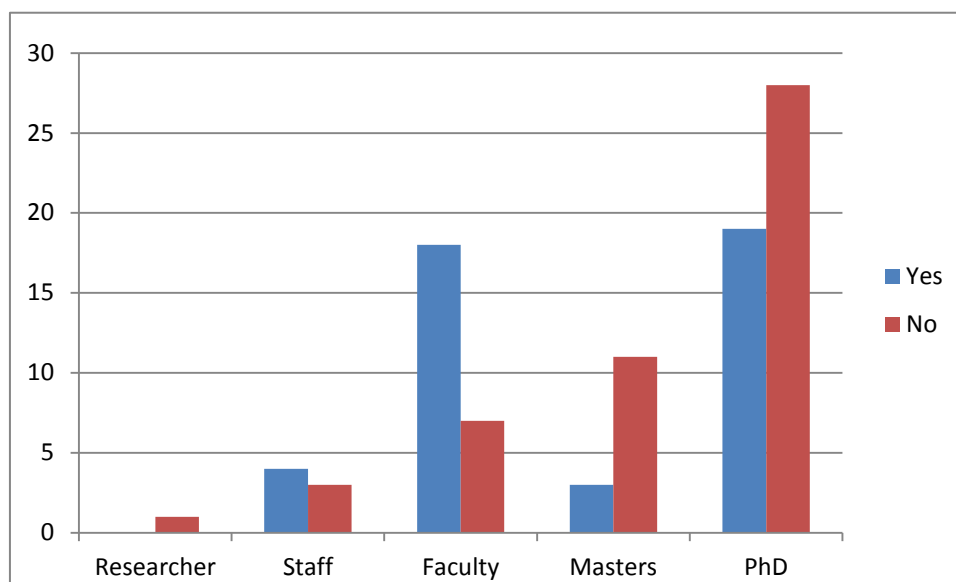
Figure 26: Awareness of engineering reference librarian by user group

The engineering librarian is the most important resource that the library has to offer the school of engineering. It is this librarian that helps create and support all the other services in addition to the collection development of the engineering resources. This lack of awareness is evidence of the lost communication between the library and school of engineering.

Consolidation of engineering library.

The engineering library was merged into the main university library a few years ago, and while the effect of that is noticeable to the librarian, some of the user groups are not even aware that there previously was a specific engineering library located in the main school of engineering building. Figure 27 illustrates the breakdown of those patrons that used the engineering library.
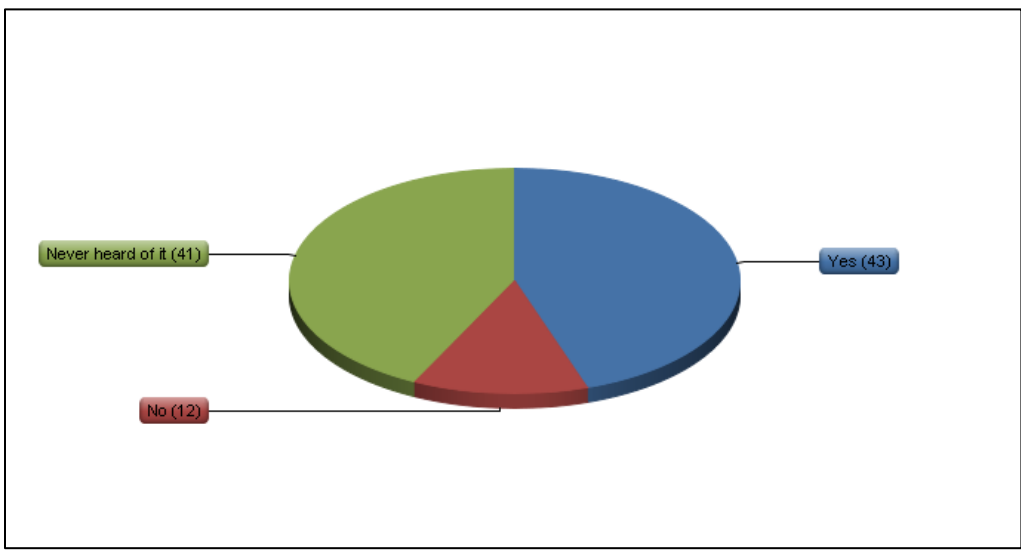
Figure 27: Q - Did you ever use the Engineering Library?

Of the forty-three people who had used the library, questions were posed about

the difference in service between the engineering library and the main library and what

patrons missed about the engineering library, as seen in Figure 28 and Figure 29.

#	Answer		Response	%
1	Yes		23	55%
2	No		19	45%
	Total		42	100%

Figure 28: Q - Do you think the same level of service is offered through Main Library as it was with the Engineering Library
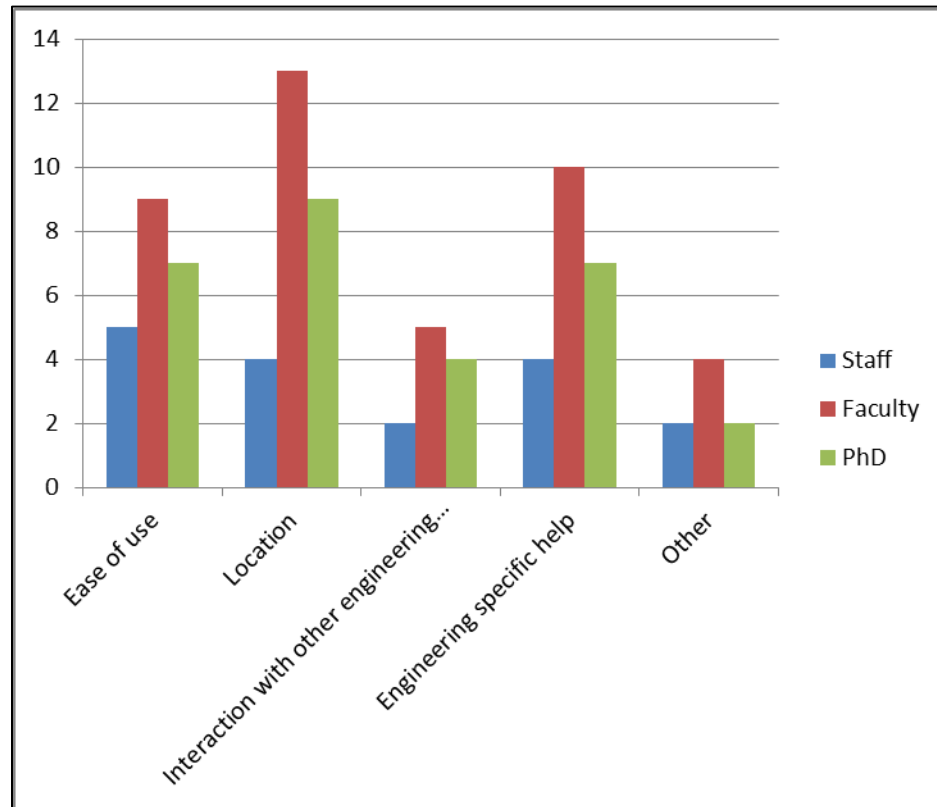
Figure 29: Q - What do you miss about the Engineering Library?

There was also an open text block on the survey for any comments about the engineering library consolidation. One response summed up the reason that this marketing and promotion plan is needed, "the engineering library was not a consolidation, it just disappeared somewhere into the vast main university library." Another response stated that, "Engineering no longer felt like a part of the library." A summary of the open text suggestions and comments is compiled in Appendix E.

Marketing Program

The information gleaned from the SWOT analysis and the Qualtrics Survey demonstrated the need for marketing the engineering librarian and the services available to the school of engineering. The recurring theme was a lack of awareness by the user groups of the resources and services available to them from the library. Therefore the marketing program needed to focus first on rebuilding communication and improving visibility.

The beginning building blocks of the marketing program are shown in Figure 30. The first step is an email to the school of engineering listserv. This email, shown in Appendix F, thanks the user groups for participating in the survey and highlights some of the main findings and suggestions received. A document will be attached, see Appendix G, with quick tips and links to some of the main services available that were referenced in the survey. The goal of this initial step is simply exposure to facts, such as there is an engineering reference librarian.
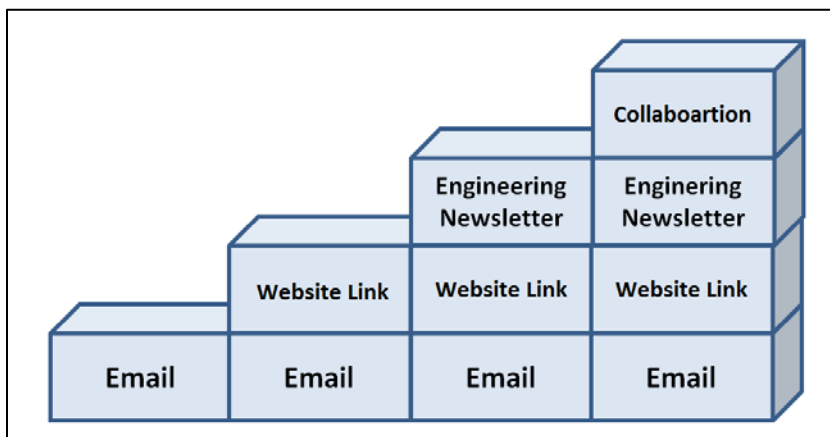

Figure 30: Proposed Promotional building blocks

The rest of the marketing promotion steps are more involved and will take collaboration with a variety of departments and services. Therefore, these ideas are presented as recommendations to the engineering librarian and the university library's reference department as ways to market to the school of engineering in the future.

Recommendations for engineering librarian:

- Promote office hours to be held in the main engineering building's coffee shop for informal reference help and research consultations.

- Advertise and hold bibliographic / citation management workshops for programs that the university offers (such as RefWorks) that are not currently being used, and for ones frequently used (such as BibTex) that the library does not have workshops on.

- Celebrate National Engineering Week with some type of library promotional contest or giveaway.

- Implement more instructional sessions for engineering students on finding and using scholarly articles and primary sources.

- Supply contact information to engineering students, faculty and staff for direct IM/Chat with the engineering librarian during specified office hours.

- Look into obtaining extra copies of Nature and Science journals for the office / lobby of the main engineering building – as requested in the user feedback.

Recommendations for the university library:

- Research the possibility of having a book delivery and return location in one of the engineering buildings, as suggested frequently in the feedback portion of the survey.

- Advertise the office hours and location of the engineering librarian through the university library website.

- Try to create a "space" in the main library for engineering resources with signage and strategically placed furniture, then promote the new 'engineering den' to the school of engineering.

- Add section to library website under citation help to include ACS.

- Review suggestions for improvement to ILL/DDS.

- Review suggestions for improvement to off-campus access to library resources.

Recommendations to collaborate with the school of engineering:

- Integrate a link to librarian's website and subject guides through their home page.

- Feature information on library resources available to their users in the school of engineering's monthly newsletter.

- Advertise the office hours and location of the engineering librarian through the school of engineering website.

- Have the engineering librarian attend the school of engineering's department meetings and collaborate with faculty on assignments and instruction.

- Use school of engineering functions, such as introductory social meetings and orientation for potential meet and greets with the engineering librarian.

- Discuss the possibility of using screen savers on the computers at the school of engineering to include promotional ads for the library resources and services.

Recommendations to collaborate with admissions department:

- Be a larger part of orientation for graduate students, provided during all semesters. This could include tours of the library and an information packet about resources and services available to aid the students in their assignments and research.
- Discuss the possibility of using screen savers on the computers at the school of engineering to include promotional ads for the library resources and services.

Recommendations to utilize other departments and students:

- Do a project with business students for a marketing plan for the library to reach the user groups in the school of engineering. Can be focused on one of the new ideas or services discussed above.
- Have a contest to design a 'brand' or poster for promoting the library to engineers.
- Work with the writing center to co-host events about writing engineering research papers. Include information on different citation styles, along with how to cite engineering specific resources (patents, standards, etc.)

Future Study

Further work will need to be done to collect statistics and get user feedback about the marketing campaign so it can be refined and improved for continual use with each academic year in order to build a solid communication link between the school of engineering and the engineering librarian.

In addition to refining the marketing to the user groups defined in the market segmentation, a major group to be included in the future would be that of undergraduate students at the school of engineering. The literature in this subject emphasizes the importance of information literacy skills and need for engineering students to meet these standards. Reaching the students at initial undergraduate matriculation could build a solid foundation for these skills to assist the students throughout their academic and professional careers.

Another area that could be researched for supplemental marketing promotion would be in regards to international students as target user groups. Different cultural backgrounds could possess different information seeking behaviors and learning styles. These factors may need to be included to successfully reach that portion of the school of engineering population.

There are a few other subjects that are beyond the scope of this project, yet are important topics in engineering education and libraries. The issue of plagiarism and copyright has been in a lot of recent articles due to availability of information and images on the internet and the blur between common and academic sources. Also, accountability and value that the library provides to the university and in-turn that the university provides to its students is another popular topic that could be studied. This could potentially be tied in with the information literacy standards for engineers in regards to receiving ABET accreditation.

Conclusion

The combination of a bad economy and advanced technology has made marketing crucial for libraries and librarians to remain successful, even in academia. Like any other service industry, the consumer (students and faculty in this case) cannot take full advantage of what the library has to offer if they are not aware of it, do not know how to access it, or do not understand how it benefits them. In this specific project, the private research university's library has many excellent resources available for engineering students and faculty including the expertise of the engineering reference librarian.

This project focused on rebuilding the communication between the school of engineering and the engineering librarian through a successful marketing campaign after the dedicated engineering library was consolidated into the main library. A similar marketing plan and development method could be applied to any departmental/academic library division that is removed, consolidated, merged or even simply underutilized.

The objective of the marketing plan for the engineering librarian is to increase use of library resources and services available to the school of engineering. These improvements are part of the library's mission to support the education of students through information literacy and the advancements in research by the faculty.

Implementing a successful marketing campaign for academic libraries is a win-win situation where everyone benefits. The library, librarians and university all have the potential for improved visibility, respect and outreach. The faculty and students have the potential for greater success with their research and academic and professional success. Information is very powerful, and with so much of it available, the skills to successfully navigate and utilize it are crucial. The library has much to offer and with the application of a customized business marketing plan for the school of engineering, can reach out to the students and faculty to help them help themselves.

Appendix A – Summary of ACRL Standards

Standard one:

The information literate student determines the nature and extent of the information

needed

1. Defines and articulates the need for information.
2. Identifies a variety of types and formats of potential sources for information.
3. Has a working knowledge of the literature of the field and how it is produced.
4. Considers the costs and benefits of acquiring the needed information.

Standard two:

The information literate student acquires needed information effectively and efficiently

1. Selects the most appropriate investigative methods or information retrieval systems for accessing the needed information.
2. Constructs and implements effectively designed search strategies.
3. Retrieves information using a variety of methods.
4. Refines the search strategy if necessary.
5. Extracts, records, transfers, and manages the information and its sources.

Standard three:

The information literate student critically evaluates the procured information and its

sources, and as a result, decides whether or not to modify the initial query and/or seek

additional sources and whether to develop a new research process.

1. Summarizes the main ideas to be extracted from the information gathered.
2. Selects information by articulating and applying criteria for evaluating both the information and its sources.
3. Synthesizes main ideas to construct new concepts.
4. Compares new knowledge with prior knowledge to determine the value added, contradictions, or other unique characteristics of the information.

5. Validates understanding and interpretation of the information through discourse with other individuals, small groups or teams, subject-area experts, and/or practitioners.
6. Determines whether the initial query should be revised.
7. Evaluates the procured information and the entire process.

Standard four:

The information literate student understands the economic, ethical, legal, and social

issues surrounding the use of information and its technologies and either as an individual

or as a member of a group, uses information effectively, ethically, and legally to

accomplish a specific purpose.

1. Understands many of the ethical, legal and socioeconomic issues surrounding information and information technology.
2. Follows laws, regulations, institutional policies, and etiquette related to the access and use of information resources.
3. Acknowledges the use of information sources in communicating the product or performance.
4. Applies creativity in use of the information for a particular product or performance.
5. Evaluates the final product or performance and revises the development process used as necessary.
6. Communicates the product or performance effectively to others.

Standard five:

The information literate student understands that information literacy is an ongoing

process and an important component of lifelong learning and recognizes the need to keep

current regarding new developments in his or her field.

1. Recognizes the value of ongoing assimilation and preservation of knowledge in the filed
2. Uses a variety of methods and emerging technologies for keeping current in the field.

Appendix B – Email to Listserv

From: ▮▮▮▮
Sent: Monday, February 13, 2012 9:17 AM
To: ▮▮▮▮▮▮▮▮▮▮
Cc: ▮▮▮▮
Subject: Please take a 10 Minute Survey to Help Improve Library Services to ▮

Dear ▮ faculty and graduate students,

Please consider taking an online survey to help ▮▮ University Libraries provide better services to the students, faculty and staff of ▮▮ School of Engineering.

Background:

- This project is interested in how engineering students, faculty and staff use the library
- It is research for my masters paper to complete my degree in library science at UNC
- I am a practicing mechanical engineer and graduate student at the School of Information and Library Science
- This project is supported by ▮▮▮▮, ▮ library liaison, who is interested in providing relevant library services to the ▮ School of Engineering.
- This project has gone through the UNC IRB approval process (#12-0128)

The Survey:

- Your participation in this survey is completely voluntary, and no risks are anticipated to respondents
- You may refuse to answer any item you choose to omit, or quit the survey at any time
- All information provided will be completely anonymous and confidential
- Filling out this survey will be taken as your consent to participate in this project
- This survey should only take about 10 minutes to complete
- The survey will be open through February 27, 2012.

Click Here to take the Survey

Benefits:

- You will be helping ▮▮ University Libraries provide better services to engineering students, faculty and staff
- You will be helping a graduate student complete their Master's degree at UNC in the field of library science

Thank you in advance for your consideration of this project. I know that your time is valuable. If you have any questions regarding this research, I encourage you to contact me at mas44@live.unc.edu.

Sincerely,

Melanie A. Sturgeon
MSE (2006), MSLS (May 2012)

(If the above link to the survey does not work, please enter https://uncodum.qualtrics.com/SE/?SID=SV_aYkD8XzJLDmJU7a into your browser)

Appendix C – Reminder Email to Listserv

From: █████████
Sent: Tuesday, February 21, 2012 9:18 AM
To: █████████████████████████████
Cc: █████████
Subject: Reminder ███ Library Survey Still Open - Please take 10 Minutes to Help Improve Services

Thank- you to everyone who has responded to the survey already! For those who have not had a chance yet, the survey is open until Monday 2/27/12. The average time to complete the survey has been <u>less than 8 minutes.</u>

Ideally, we would love to receive approximately another **150** responses for this research project.   Please consider taking the survey and helping us achieve our goal to provide better library services to the students, faculty and staff of ███ School of Engineering.

<u>Click Here to Take the Survey</u>

Thanks!
 - Melanie A. Sturgeon
    <u>mas44@live.unc.edu</u>

(If the above link to the survey does not work, please enter <u>https://uncodum.qualtrics.com/SE/?SID=SV_aYkD8XzJLDmJU7a</u> into your browser)

Appendix D – Qualtrics Survey

Q54

Hello.

I am conducting this web survey as part of my master's paper for the School of Information and Library Science at the University of North Carolina.

I am a practicing mechanical engineer and am interested in how engineering students, faculty and staff use the library. This project is supported by ███████████ library liaison, who is interested in providing relevant library services to the ███ School of Engineering.

Your participation in this survey is completely voluntary, and no risks are anticipated to respondents. In addition, you may refuse to answer any item you choose to omit, or quit the survey at any time. All information provided will be completely anonymous and confidential. Filling out this survey will be taken as indication that you consent to participate in this project.

This survey should only take about 10 minutes to complete and will not only help me complete my MSLS, but will also contribute to continuous improvement of ███ University Library services to ███ School of Engineering.

If you have any questions regarding this research, I encourage you to contact me at mas44@live.unc.edu.

Thank you in advance for you consideration of this project. I know that your time is valuable.

Sincerely,

Melanie A. Sturgeon

IRB # 12-0128

Q1

What is your affiliation with the ███ School of Engineering at ███ University?

- ○ Graduate Student
- ○ Researcher
- ○ Staff
- ○ Faculty

Display This Question:
If What is your affiliation with the ███ School of Engine... Graduate Student Is Selected

Q25

What graduate degree are you working on?

- ○ Masters
- ○ PhD

Q2

Were you given a tour of the ██████████ Library?

- ○ Yes
- ○ No

Display This Question:

If What is your affiliation with the ███ School of Engine.... **Graduate Student** Is **Selected**

Or What is your affiliation with the ███ School of Engine.... **Researcher** Is **Selected**

Q3 Did you ever attended an instructional session (or have one as part of a class) on how to use the ███ library (ie searching the catalog, finding articles, using databases, etc.)?

- ○ Yes
- ○ No

Display This Question:

If Did you ever attended an instructional session (or have o... **Yes** Is **Selected**

Q7 What did you think of this library instruction?

- ○ Very helpful
- ○ Not necessary (already knew information)
- ○ Prefer to learn on my own

Q8 How many times have you been in one of ███s Libraries in the past month?

- ○ 0
- ○ 1-2
- ○ 3-6
- ○ 7-14
- ○ 15+

Q9 What are your main reasons for going to one of the ███ Libraries?

	Very Often	Quite Often	Sometimes	Rarely	Never
Quiet place to study / research	○	○	○	○	○
Meeting with a group	○	○	○	○	○
Access to special collections	○	○	○	○	○
Access to databases	○	○	○	○	○
Reference / Help	○	○	○	○	○
Circulation (check something in/out, manage account, etc)	○	○	○	○	○
Use a computer / scanner / printer	○	○	○	○	○

Q10 Have you asked a question at the Reference Desk in person during the past month?

- ○ Yes
- ○ No

Display This Question:
If Have you asked a question at the Reference Desk in person... Yes Is Selected

Q11

Were you satisfied with the help you received at the Reference Desk?

- ○ Very Satisfied
- ○ Satisfied
- ○ Neutral
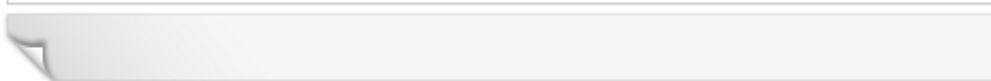- ○ Dissatisfied
- ○ Very Dissatisfied

Display This Question:
If Have you asked a question at the Reference Desk in person... Yes Is Selected

Q12

Would you like to enter any feedback about your experience at the Reference Desk?
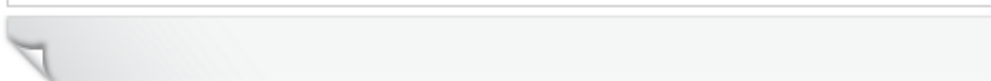
Q13   **Have you used "Ask a Librarian" to get help?**

	Yes	No
IM / Chat	○	○
Phone	○	○
Email	○	○
Research Consultation	○	○

Display This Question:
If Have you used Ask a Librarian to get help? IM / Chat - Yes Is Selected

Q14

How frequently do you use the "Ask a Librarian" IM / Chat feature?

- ○ 2-3 Times a Week
- ○ Once a Week
- ○ 2-3 Times a Month
- ○ Once a Month
- ○ Less than Once a Month

Display This Question:
If Have you used Ask a Librarian to get help? IM / Chat - Yes Is Selected

Q20

Would you recommend the "Ask a Librarian" IM / Chat feature to other students or colleagues?

- ○ Yes
- ○ No

Display This Question:
If Have you used Ask a Librarian to get help? Phone - Yes Is Selected

Q68

How frequently do you use the "Ask a Librarian" Phone numbers to ask a question?

- ⊙ 2-3 Times a Week
- ⊙ Once a Week
- ⊙ 2-3 Times a Month
- ⊙ Once a Month
- ⊙ Less than Once a Month

Display This Question:
If Have you used Ask a Librarian to get help? Phone - Yes Is Selected

Q69

Would you recommend the "Ask a Librarian" by Phone to other students or colleagues?

- ⊙ Yes
- ⊙ No

Display This Question:
If Have you used Ask a Librarian to get help? Email - Yes Is Selected

Q17

How frequently do you use the "Ask a Librarian" Email?

- ⊙ 2-3 Times a Week
- ⊙ Once a Week
- ⊙ 2-3 Times a Month
- ⊙ Once a Month
- ⊙ Less than Once a Month

Display This Question:
If Have you used Ask a Librarian to get help? Email - Yes Is Selected

Q30

Would you recommend the "Ask a Librarian" Email feature to other students or colleagues?

- ⊙ Yes
- ⊙ No

Display This Question:
If Have you used Ask a Librarian to get help?   Research Consultation - Yes   Is   Selected

Q70 How frequently do you use the "Ask a Librarian" Research Consultation?

○ 2-3 Times a Week

○ Once a Week

○ 2-3 Times a Month

○ Once a Month

○ Less than Once a Month

Display This Question:
If Have you used Ask a Librarian to get help?   Research Consultation - Yes   Is   Selected

Q71 Would you recommend the "Ask a Librarian" Research Consultation to other students or colleagues?

○ Yes

○ No

Q19 Which form of Reference Help do you prefer?

○ In person at the desk

○ IM / Chat

○ Over the phone

○ Email

○ One-on-One research consultation

Q55 Is there any reason for your preference in which type of Reference Help?

Q26 Did you ever use the ▮▮ Engineering Library?

○ Yes

○ No

○ Never heard of it

Display This Question:

If Did you ever use the ▮ Engineering Library? **Yes** Is **Selected**

Q27

What do you miss about the ▮ Engineering Library? (Please select all that apply)

☐ Ease of use

☐ Location

☐ Interaction with other Pratt students / faculty

☐ Engineering specific help

☐ Other

_____

Display This Question:

If Did you ever use the ▮ Engineering Library? **Yes** Is **Selected**

Q28

Do you think the same level of service is offered through ▮ as it was with the ▮ Engineering Library?

○ Yes

○ No

Display This Question:

If Did you ever use the ▮ Engineering Library? **Yes** Is **Selected**

Q29

Is there anything you would like to see done differently or that you feel is missing since ▮ consolidated with ▮?

_____

Q21

Did you know there is a specialty reference Librarian assigned to the ▮ School of Engineering?

○ Yes

○ No

Display This Question:

If Did you know there is a specialty reference Librarian ass... **Yes** Is **Selected**

Or Did you know there is a specialty reference Librarian ass... **No** Is **Selected**

Q22

Her name is ▮

You have probably seen her holding 'office hours' in ▮ where she is available to help with any reference or research questions. She can also be reached via phone, email, or chat. Additionally you can set up a one-on-one consultation with her.

Q31

What professional organizations do you belong to? (Select all that apply)

☐ ASEE	☐ ASEM	☐ EWB	☐ OSA
☐ ASME	☐ ASTM	☐ MRS	☐ SPIE
☐ AIAA	☐ BMES	☐ NSPE	☐ AIMBE
☐ AIChE	☐ ASM	☐ SAE	☐ Other _____
☐ ASCE	☐ IEEE	☐ SME	☐ Other _____

Display This Question:

If What is your affiliation with the ▮ School of Engine... **Staff** Is **Selected**

Or What is your affiliation with the ▮ School of Engine... **Faculty** Is **Selected**

Q31

Do you still use print journals?

○ Yes

○ No

○ Sometimes, but prefer electronic / on-line version

Display This Question:

If Do you still use print journals? **Yes** Is **Selected**

Or Do you still use print journals? **Sometimes, but prefer electronic / on-line version** Is **Selected**

Q60

How do you use print journals?

○ Just browse ones received via personal or departmental mail

○ Read each new issue of my favorite ones

○ Rely on for my research

○ Other _____

Q23

Are you familiar with the Engineering Subject Guides on the ▮ University Library Website?
Research by Subject - Engineering & Technology
Starting points for Engineering Topics

○ Yes

○ No

Display This Question:

If   What is your affiliation with the ▮ School of Engine...   **Graduate Student   Is   Selected**

Or   What is your affiliation with the ▮ School of Engine...   **Researcher   Is   Selected**

Q67

How frequently do you currently use scholarly (peer reviewed) articles?

- ○ Never
- ○ Less than Once a Month
- ○ Once a Month
- ○ 2-3 Times a Month
- ○ Once a Week
- ○ 2-3 Times a Week
- ○ Daily

Display This Question:

If   What is your affiliation with the ▮ School of Engine...   **Graduate Student   Is   Selected**

Or   What is your affiliation with the ▮ School of Engine...   **Researcher   Is   Selected**

Q72

How frequently did you use scholarly (peer reviewed) articles while working on your undergraduate degree?

- ○ Never
- ○ Less than Once a Month
- ○ Once a Month
- ○ 2-3 Times a Month
- ○ Once a Week
- ○ 2-3 Times a Week
- ○ Daily

Q32

What databases / websites do you use the most frequently for engineering research?   (Select all that apply)

- ☐ IEEE
- ☐ Engineering Village
- ☐ Web of Science
- ☐ ENGnetBase
- ☐ eFunda
- ☐ Compendex
- ☐ Scirus
- ☐ Google Scholar
- ☐ Other
- ☐ Other

Display This Question:

If   What is your affiliation with the ▮ School of Engine...   **Graduate Student   Is   Selected**

Or   What is your affiliation with the ▮ School of Engine...   **Researcher   Is   Selected**

Q40

Do you know how to search for patents?

- ○ Yes
- ○ No

Display This Question:

If What is your affiliation with the ▉ School of Engine... **Graduate Student** Is **Selected**

Or What is your affiliation with the ▉ School of Engine... **Researcher** Is **Selected**

Q41

Do you know how to find current engineering industry / government standards?

○ Yes

○ No

Q33

Do you know that you can request the library to get a book, journal or article that is does not currently have?

	Yes	No
Through DDS (ILL)	○	○
Request to Purchase	○	○

Display This Question:

If What is your affiliation with the ▉ School of Engine... **Graduate Student** Is **Selected**

Or What is your affiliation with the ▉ School of Engine... **Researcher** Is **Selected**

Q62

Are you familiar with ISI Web of Science for finding journal rankings and citations?

○ Yes

○ No

○ Not Sure

Display This Question:

If What is your affiliation with the ▉ School of Engine... **Graduate Student** Is **Selected**

Or What is your affiliation with the ▉ School of Engine... **Researcher** Is **Selected**

Q63

Are you familiar with Ulrichs for finding information on journals (if they are peer reviewed, etc) ?

○ Yes

○ No

○ Not Sure

Q30

What citation style / formatting do you use (or assign) most frequently?

○ ACS

○ APA

○ Chicago

○ CSE

○ MLA

○ Turabian

Q4   Do you use a bibliographic (citation) management and formatting program?

- ○ Yes
- ○ No
- ○ Not sure

Display This Question:
If Do you use a bibliographic (citation) management and form... **Yes** Is Selected

Q5   What bibliographic (citation) management software do you prefer?

- ○ EndNote
- ○ Mendely
- ○ RefWorks
- ○ Zotero
- ○ Other

Display This Question:
If What bibliographic (citation) management software do you ... **EndNote** Is Selected

Or What bibliographic (citation) management software do you ... **Mendely** Is Selected

Or What bibliographic (citation) management software do you ... **RefWorks** Is Selected

Or What bibliographic (citation) management software do you ... **Zotero** Is Selected

Or What bibliographic (citation) management software do you ... **Other** Is Selected

Q6   Have you taken a workshop through ▮ library or used ▮ library tutorials / videos to learn how to use the bibliographic (citation) management software?

- ○ Yes
- ○ No

Display This Question:
If What is your affiliation with the ▮ School of Engine... **Staff** Is Selected

Or What is your affiliation with the ▮ School of Engine... **Faculty** Is Selected

Q34   Have you worked with ▮ (or another Librarian) to create a course page / LibGuide for your class?

- ○ Yes
- ○ No

Display This Question:
If What is your affiliation with the ▮ School of Engine... **Staff** Is Selected

Or What is your affiliation with the ▮ School of Engine... **Faculty** Is Selected

Q35   Have you worked with ▮ (or another Librarian) to set up reserves for your class?

- ○ Yes
- ○ No

Display This Question:

If   What is your affiliation with the ▮ School of Engine... **Staff**   Is   **Selected**

Or   What is your affiliation with the ▮ School of Engine... **Faculty**   Is   **Selected**

Q37

Did you know that ▮ **(or another Librarian) can do in-class library instruction?**

○ Yes

○ No

Display This Question:

If   What is your affiliation with the ▮ School of Engine... **Faculty**   Is   **Selected**

Or   What is your affiliation with the ▮ School of Engine... **Staff**   Is   **Selected**

Q38

Have you worked with ▮ **(or another Librarian) for an assignment you're giving in class?**

○ Yes

○ No

Display This Question:

If   What is your affiliation with the ▮ School of Engine... **Staff**   Is   **Selected**

Or   What is your affiliation with the ▮ School of Engine... **Faculty**   Is   **Selected**

Q39

Have you worked with ▮ **(or another Librarian) for help with your own research?**

○ Yes

○ No

Display This Question:

If   What is your affiliation with the ▮ School of Engine... **Staff**   Is   **Selected**

Or   What is your affiliation with the ▮ School of Engine... **Faculty**   Is   **Selected**

Q63

Do any of your assignments require students to search for patents?

	Yes	No
Undergraduate Assignments	☐	☐
Graduate Assignments	☐	☐

Display This Question:

If   What is your affiliation with the ▮ School of Engine... **Staff**   Is   **Selected**

Or   What is your affiliation with the ▮ School of Engine... **Faculty**   Is   **Selected**

Q64

Do any of your assignments require students to use industry/government standards?

	Yes	No
Undergraduate Assignments	☐	☐
Graduate Assignments	☐	☐

Display This Question:

If   What is your affiliation with the ▮▮ School of Engine... **Staff** Is **Selected**

Or   What is your affiliation with the ▮ School of Engine... **Faculty** Is **Selected**

Q74

Do any of your assignments require students to use scholarly (peer reviewed) articles?

	Yes	No
Undergraduate Assignments	☐	☐
Graduate Assignments	☐	☐

Display This Question:

If   What is your affiliation with the ▮ School of Engine... **Staff** Is **Selected**

Or   What is your affiliation with the ▮ School of Engine... **Faculty** Is **Selected**

Q75

Do any of your assignments require students to use a primary source?

	Yes	No
Undergraduate Assignments	☐	☐
Graduate Assignments	☐	☐

Display This Question:

If   What is your affiliation with the ▮ School of Engine... **Staff** Is **Selected**

Or   What is your affiliation with the ▮ School of Engine... **Faculty** Is **Selected**

Q36

Have you worked with ▮ (or another Librarian) to have in-class instruction for any of the following?

	Yes	No
How to use Library Resources (catalog, database, etc)	○	○
How to find engineering standards	○	○
How to search for patents	○	○
How to use web of science (citations, journal rankings, etc)	○	○
For a class specific assignment	○	○

Q43

Would you like to receive updates about new books, journals, databases, subject guides, services, etc that become available for Engineering from the Library?

○ Yes

○ Maybe

○ No

Display This Question:

If   Would you like to receive updates about new books, j...   **Yes**   Is   **Selected**

Or   Would you like to receive updates about new books, j...   **Maybe**   Is   **Selected**

Q44 **In what format would you prefer to receive these updates?**

- ○ ▉ Listserv / email
- ○ Twitter
- ○ Facebook
- ○ Blog
- ○ RSS
- ○ YouTube
- ○ Embedded widget on ▉ or Library website (twitter feed, rss feed, etc)
- ○ Other

Q42 **Do you feel that your library needs are currently being met?**

	Definitely yes	Probably yes	Maybe	Probably not	Definitely not
Services Offered (workshops, tutorials, videos, in class instruction, etc)	○	○	○	○	○
Reference Help (assistance with research, subject guides, citation help, finding patents/standards, etc)	○	○	○	○	○
Resources Available (books, journals, databases, standards, etc)	○	○	○	○	○

Q45 **Are there any library services you feel are missing or would like to have?**

Q46 **Are there any improvements you would recommend?**

Q53   Thank you for participating in this survey!

Your help is greatly appreciated not only for my master's paper, but also for making continuous improvements in how the Library can help ███ students, faculty and staff.

If you have any questions about my research, please contact me at mas44@live.unc.edu

Appendix E – Suggestions from the Survey Open Text

Q – Are there any library services you feel are missing or would like to have?

       A – Changes to circulation policies (1x)
       A – More hours / access (2x)
       A – Better off campus access (2x)
       A – Tours & training for new students & faculty (2x)
       A – Engineering Librarian doing a great job (2x)
       A – Delivery of books near engineering / book drop-off near engineering (3x)
       A – No / Nothing (3x)
       A – More resources (journals, textbooks, etc.) (5x)

Q – Are there any improvements you would recommend?

       A – Better off campus access (1x)
       A – Engineering Librarian doing a great job (1x)
       A – Delivery of books near engineering / book drop-off near engineering (1x)
       A – Changes to circulation policies (2x)
       A – Library as 'place' (2x)
       A – Improvements to ILL / DDS (2x)
       A – No / Nothing (3x)
       A – Tours & training for new students & faculty (3x)
       A – More resources (journals, textbooks, etc.) (7x)

Appendix F – Promotional Email

From: ▉▉▉▉▉
Sent: Monday, April 9, 2012 9:34 AM
To: ▉▉▉▉▉▉▉▉▉▉▉▉▉▉▉▉▉▉▉▉▉▉▉▉▉▉▉▉▉▉
Cc: ▉▉▉▉▉▉
Subject: Thank you for Participating in the Survey to Help Improve Library Services to ▉▉

Thank- you to everyone who responded to the survey back in February!

We received approximately 100 responses and were able to identify some key areas to improve upon. The main lesson learned was the lack of visibility and awareness of library services available to ▉▉ students, faculty and staff.

Attached is a pdf highlighting what the library has to offer ▉▉, with links to some engineering-specific resources and other library tools that may be helpful.

The findings of the survey will be presented to the ▉▉▉▉▉▉▉▉▉▉▉▉▉▉▉ with recommendations for improving services and outreach to ▉▉. Some of the comments and suggestions that were received through the survey include:

- Book delivery / drop-off near ▉▉
- Library tours & information packets for all incoming students and faculty
- More textbooks available through the library
- Have 'engineering' more prominent in ▉▉▉▉▉
- Fix some off-campus ▉▉ issues / access to databases

- And -

- ▉▉ is doing a great job!

I think the information gathered from this survey will be very helpful to ▉▉▉▉▉▉ While not all suggestions may be implemented, it is useful to know what is working and what could be enhanced in the future.

Please look for more communication and outreach from the library.

Thank you again for helping with this project!

Sincerely,

Melanie A. Sturgeon
MSE (2006), MSLS (May 2012)

Appendix G – Promotional Document

What can the library do for ████?

████ University Libraries has a lot to offer to the students, faculty and staff of the ████ School of Engineering. We have a large collection of resources including books, journals, online databases, microfilm and special collections. There are multiple ways of searching the catalog, along with plenty of research assistance through the *Ask a Librarian* options of chat, IM, email, phone or in-person at the reference desk or with a consultation appointment. We also offer engineering specific resources and an engineering subject librarian!

Meet ████ **...**

I support the teaching and research interests of the ████ School of Engineering and the Department of Computer Science. In this role, I am responsible for providing resources books, journals, databases, in both print and electronic formats, of interest to the faculty, staff, and students of ████. I can assist you in any of your library/research related questions.

I have an MLS in Library and Information Science from ████, an Ed.M in Education from ████, and a B.A. from ████

Engineering Subject & Reference Guides

- Researching Engineering Topics - http://████/research/subject/guides/engineering/index.html
- Biomedical Engineering - http://guides.████/biomed
- Civil & Environmental - http://guides.████/civil
- Electrical Engineering & Computer Science - http://guides.████/elec
- Engineering - http://guides.████/engr
- Mechanical Engineering & Material Science - http://guides.████/mech
- Patents - http://guides.████/patent
- Industry Standards - http://guides.l████/standards

Research Tools

How Do I...

Research Help

Citation Help

Citation Management Programs

████ Mobile
████ LibX Browser
████ Library iGoogle
████ Browser Plugins

All services for students

For Staff & Faculty

- Help with Research
- Course Pages
- Class Reserves

- In-class instruction
  - Library Catalog & Databases
  - Scholarly articles
  - Types of Sources
  - Citations / Programs
  - Patents
  - Industry Standards
  - Specific Assignment

All resources for faculty

News & Resources

Library Blogs

████ Libraries Magazine

████ Virtual Book Club

████ Library Exhibits

Library Newsletters

Library Events

Connect... twitter, Facebook, Youtube, flickr

████ Library
████
(████ Reference Desk

Visit us online at http://████

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