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Bush, John C. *Data-Driven Decision Making: The Transition from Data Analysis to Creating an Actionable Agenda*

Abstract

Research was conducted to analyze the needs of University of Wisconsin-Stout University Library Newsletter's intended audience. A survey instrument was created to solicit formal input from students, faculty, and staff.

A statistical analysis plan was devised jointly by the researcher and the University of Wisconsin-Stout Planning, Assessment, Research and Quality Office. Statistical analysis utilized descriptive statistics and Pearson's χ^2 significance test calculations.

Research findings indicate that thematic similarities exist among the needs of students, faculty, and staff. Of 498 respondents who participated, 82% indicated they do not read the library newsletter. Qualitative data provided cited a lack of awareness of the newsletter's existence, in addition to obscurity surrounding newsletter distribution. In addition to increasing awareness of the newsletter, provided data indicated that inclusion of specific content types and changes in distribution intervals would increase newsletter readership.

Data-Driven Decision Making involves the explicit, prudent use of information provided by stakeholders in decision making processes. Care must be taken not to succumb to the psychological weight afforded to relinquishing existing decision-making processes, instead allowing data to be the deliberate driver of decision making related to the needs of University Library Newsletter readers.

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Table of Contents

| | |
|--|----|
| Abstract..... | 2 |
| Chapter I: Introduction..... | 7 |
| Statement of the Problem..... | 10 |
| Purpose of the Study..... | 10 |
| Assumptions of the Study..... | 11 |
| Definition of Terms..... | 12 |
| Limitations of the Study..... | 14 |
| Methodology..... | 15 |
| Chapter II: Literature Review..... | 16 |
| Challenges Faced by Libraries..... | 16 |
| Information needs..... | 18 |
| The need to adopt business practices..... | 19 |
| Doing more with less..... | 20 |
| Continuous Improvement..... | 22 |
| Performance improvement..... | 24 |
| Data collection and analysis..... | 25 |
| Data-driven decision making and evidence-based management..... | 26 |
| <i>Data versus intuition</i> | 27 |
| Advantages of a Data-Driven Approach..... | 28 |
| Building support..... | 29 |
| Goals and planning..... | 29 |
| Using metrics to evaluate and improve performance..... | 30 |
| <i>Establishing measurements</i> | 31 |

| | |
|---|-----|
| | 5 |
| <i>Choosing SMART metrics</i> | 32 |
| <i>Evaluation</i> | 33 |
| <i>Budget allocation</i> | 33 |
| <i>Motivation</i> | 34 |
| <i>Compliance</i> | 36 |
| Summary | 36 |
| Chapter III: Methodology | 38 |
| Demographics | 39 |
| Sample selection | 40 |
| Instrumentation | 41 |
| Data Collection Procedures | 41 |
| Data Analysis | 42 |
| Chapter IV: Results | 44 |
| Chapter V: Discussion | 48 |
| Limitations | 48 |
| Conclusions | 49 |
| Recommendations | 50 |
| Summary | 51 |
| References | 52 |
| Appendix A: Descriptive Statistics Tables | 61 |
| Appendix B: Pearson's χ^2 Significance Tests | 120 |
| Appendix C: Qualitative Data | 127 |

| | |
|---|-----|
| Appendix D: Survey Instrument | 134 |
| Appendix E: The SCONUL Seven Pillars of Information Literacy Core Model | 137 |
| Appendix F: Data Analysis Plan..... | 151 |
| Appendix G: Human Subjects Form..... | 155 |
| Appendix C: IRB Exemption..... | 159 |

Chapter I: Introduction

The University Library at the University of Wisconsin-Stout (UW-Stout) publishes a newsletter each semester that is distributed to students, faculty and staff. By better meeting newsletter readership needs, the library can maximize the benefits of the resources they dedicate to the creation and distribution of the newsletter. With increased emphasis placed on anticipating and meeting the needs of newsletter readers, the newsletter will aid in promoting library services in furtherance of its mission. The newsletter communicates information, functions as an educational tool, and represents the University Library's brand. University Library leadership's goals include utilizing the newsletter to demonstrate the relevance and accessibility of library services to the diverse populations the library serves; a fundamental element of meeting the goals of leadership's branding strategy for the University Library.

In addition to serving as a branding tool, the newsletter serves to advance the University Library's Mission and to provide support for the mission of UW-Stout as a polytechnic university. "The University Library's Mission is to establish, promote and maintain quality services to support the UW-Stout's commitment to teaching, research, scholarship, and service" (University of Wisconsin-Stout, 2011, p.1). The University Mission Statement is as follows: "University of Wisconsin – Stout is a career-focused, comprehensive polytechnic university where diverse students, faculty and staff integrate applied learning, scientific theory, humanistic understanding, creativity and research to solve real-world problems, grow the economy and serve a global society." (University of Wisconsin-Stout, 2012). Further, the University of Wisconsin-Stout's Enduring Goals include the promotion of excellence in teaching, research, scholarship, and service as well as responsive, efficient and cost-effective educational support programs and services.

In order to be in alignment with the University of Wisconsin-Stout's Mission and Enduring Goals, as well as the University Library's Mission, it is important to maximize newsletter readership and assure that information is being disseminated by the most efficient means possible. The potential that the newsletter holds to promote library services underscores the need to leverage this powerful marketing tool. Ultimately, the ability to leverage the newsletter enhances the performance potential of students, faculty and staff. Further, it enhances the ability of the university to meet criteria specifically mentioned in the University Mission Statement and Enduring Goals.

Increasingly, academic libraries are asked to provide quality services, yet they are provided with fewer resources to accomplish their goals. In recent years, academic libraries have faced major budgetary cuts. Libraries are easy targets when budget cuts become necessary, particularly when digital services and their associated support requirements may not be thoroughly understood by some financial administrators.

Given diminishing resources and the resulting financial constraints that libraries are forced to work within, maximizing the return from available resources is imperative. According to the North East Research Libraries (NERL) consortium (2008), Yale University has experienced budget reductions on the order of 10% for Fiscal Year 2009-2010. Even large academic libraries, some that have been beneficiaries of large endowments, are feeling strong financial pressures. Closer to home, the University of Wisconsin Systems Libraries, nor the University of Wisconsin-Stout Library have been exceptions to this trend.

A number of factors may be considered when examining the resources used in writing, editing, designing, and publishing the UW-Stout University Library Newsletter. In addition to evaluating whether or not the newsletter meets the changing needs of students, faculty, and staff;

evaluating whether or not the newsletter meets library leadership's expectations is a worthwhile pursuit. If data indicates that leadership's goals are not being met, this can be seen as an indication that return on investment is lacking. A more thorough analysis will provide useful guidance and a useful tool for the decision-making process. Data must be viewed objectively in order to serve as a guide helpful in making the decisions necessary to close the gap between current performance and desired performance--achievement of leadership's goals.

The goals of library leadership are continually shifting as a result of rapid changes in technology. In 1965, Intel co-founder Gordon E. Moore discussed a phenomenon that has since evolved into a long term technology trend. Moore's research in this area is commonly known as Moore's Law. Moore's research had found that the number of transistors which could be placed affordably on an integrated circuit doubled within roughly two years (Moore, 2003). Just as Moore has demonstrated previously, changes in technology occur at an ever-accelerating rate: The advancement of learning technologies continue to lend validity to Moore's findings several decades later.

Accelerated changes in learning technology--as well as the rapid changes in information literacy needs--further demonstrate Moore's Law at work. As an education tool, the content and focus of the University Library Newsletter can be adapted to accommodate change. In doing so, the newsletter must keep pace with evolving student needs as new learning technologies are introduced. The newsletter provides a logical means to communicate new ways that services are being adapted in an effort to better serve the changing needs of patrons. Particularly given the accelerated rate of change that libraries are currently required to manage, further analysis may help determine whether specific products and services marketed through the newsletter meet student's needs and expectations.

The potential utility of the library newsletter may not currently be being maximized since decisions concerning the newsletter are not currently backed by data. The newsletter's potential can be enhanced by collecting data to guide the decision-making process. Given input from newsletter readers, the library staff will have access to new information they may find helpful in making decisions that lead to outcomes which continue to align increasingly closer with the library's mission.

Statement of the Problem

UW-Stout University Library leadership currently does not know to what extent the newsletter meets readership's needs. Further research and follow-up analysis are needed to identify patterns in reader preferences and opportunities for improvement.

Purpose of the Study

The purpose of this research is to assess the extent that the content, format, and distribution methods of the UW-Stout University Library newsletter currently meets the needs of its intended audience. Collecting information from students, faculty, and staff will provide useful data to enhance leadership's ability to make that determination. A survey will be administered and written report of recommendations based on an analysis of the data collected will be presented.

Library resources are limited. Therefore, it is important to maximize the utility of the newsletter. Text content alone may no longer meet the changing needs and expectations of newsletter readers. It is unknown whether the audience prefers integrated video content. Nor is it known how including multimedia content might affect readership rates. Leadership is unsure if readers prefer one newsletter per semester, or whether publishing the newsletter more frequently is preferable. Additionally, it is important to determine the role that page count--the number of

pages for each newsletter--might play in increasing readership. Putting information out there in piecemeal fashion may prove mutually beneficial for the library and its patrons. Collected data may give an indication as to whether patrons find this preferable.

Performing data collection and analysis will provide library leadership with a thorough understanding of newsletter reader's needs and preferences. Identifying these needs and preferences will allow leadership to make informed decisions to aid in developing the newsletter as a tool used to increase the visibility and awareness of the University Library and its services. Further, the library can help students, faculty, and staff to better accomplish their research and scholarship as a result of promoting the use of library services that are geared toward their specific interests.

Assumptions of the Study

Several assumptions were made by the researcher in conducting this study. Strategic decisions involve unique circumstances that deserve careful consideration in order to draw generalized conclusions. The researcher made the assumption that respondents were able to read and understand the survey questions and apply them to their personal desires and needs. It has been assumed that respondents provided responses that accurately predict their future behavior when provided hypothetical scenarios concerning newsletter media, content, and delivery.

Importance was placed on collecting data that was predictive of future behavior in order to accurately evaluate the impact future decisions will have on the readership of the University Library Newsletter. Therefore, the researcher made the assumption that respondents were truthful with the responses provided in response to survey questions.

Definition of Terms

Best practices. “A best practice is an industry-wide agreement that standardizes the most efficient and effective way to accomplish a desired outcome” (Janssen, 2013).

Bottom-up. “Progressing from small or subordinate units to a larger or more important unit, as in an organization or process” (American Heritage Dictionary, 2011).

Continuous improvement. “Continuous improvement in a management context means a never-ending effort to expose and eliminate root causes of problems. Usually, it involves many incremental or small-step improvements rather than one overwhelming innovation” (Inman, 2013).

Data analytics. “Data analytics refers to qualitative and quantitative techniques and processes used to enhance productivity and business gain. Data is extracted and categorized to identify and analyze behavioral data and patterns, and techniques vary according to organizational requirements” (Technopedia, 2013).

Digital natives. “Native speakers of the digital language of computers, video games and the internet” (Prensky, 2001).

Data-driven decision making (DDDM). Data-driven decision making is the collection of appropriate data, analyzing the data in a meaningful way, getting the data to the people who need it, using the data to improve performance and increase efficiency, and communicating data-driven decisions to key stakeholders (Messelt, 2004).

Extrinsic. “Originating from or on the outside; originating outside a part and acting upon the part as a whole” (Merriam-Webster, n.d.).

Evidence-based management. “Management decisions are made through the current and best scientific evidence available. The evidence-based management movement is based on evidence-based medicine” (Business Dictionary, 2013).

Herzberg’s two-factor theory. “Concept that employee satisfaction is related to factors which motivate, and factors which cause dissatisfaction (hygiene factors). Proposed in 1950s by the US psychologist Frederick Herzberg (1923-2000). Also called two-factor theory of motivation” (Business Dictionary, 2013).

Hygiene factors. “In Hertzberg's two-factor theory of motivation, work environment factors (such as minimum-wage) whose absence may lead to dissatisfaction in employees but whose presence does not necessarily lead to their satisfaction” (Business Dictionary, 2013).

Information literacy. “Ability to define problems in terms of their information needs, and to apply a systematic approach to search, locate, apply, and synthesize the information and evaluate the entire process in terms of effectiveness and efficiency” (Business Dictionary, 2013).

Intrinsic. “Being an extremely important and basic characteristic of a person or thing” (CambridgeDictionary.com, 2013).

Metric. “Standards of measurement by which efficiency, performance, progress, or quality of a plan, process, or product can be assessed” (Business Dictionary, 2013).

Maslow’s hierarchy of needs. “Motivation theory which suggests five interdependent levels of basic human needs (motivators) that must be satisfied in a strict sequence starting with the lowest level. Physiological needs for survival (to stay alive and reproduce) and security (to feel safe) are the most fundamental and most pressing needs. They are followed by social needs (for love and belonging) and self-esteem needs (to feel worthy, respected, and have status). The final and highest level needs are self-actualization needs (self-fulfillment and achievement). Its

underlying theme is that human beings are 'wanting' beings: as they satisfy one need the next emerges on its own and demands satisfaction ... and so on until the need for self-actualization that, by its very nature, cannot be fully satisfied and thus does not generate more needs. This theory states that once a need is satisfied, it stops being a motivator of human beings. In personnel management, it is used in design of incentive schemes. In marketing, it is used in design of promotional campaigns based on the perceived needs of a market segment a product satisfies. Named after its originator, the US psychologist Abraham Harold Maslow (1908-70) who proposed it in 1954” (Business Dictionary, 2013).

Motivator factors. (See Maslow’s hierarchy of needs.)

Needs assessment. “A systematic process to acquire an accurate, thorough picture of a system’s strengths and weaknesses, in order to improve it and meet existing and future challenges” (Dictionary.com, 2007).

Statistical inference. “The theory, methods, and practice of forming judgments about the parameters of a population and the reliability of statistical relationships, typically on the basis of random sampling” (Oxford Dictionary.com, 2013).

Statistically significant. “the extent to which a result deviates from that expected to arise simply from random variation or errors in sampling” (Oxford Dictionary.com, 2013).

Limitations of the Study

It would be helpful to collect additional qualitative data to determine precisely why readership is so low. However, analysis of this kind of data would consume considerable time and resources when inferences can be drawn from collected quantitative and qualitative data. Particularly for faculty and staff, the stratified samples may not be representative of their respective populations due to the smaller population and respective sample sizes. Therefore, it is

more difficult to draw statistical inferences for these subsets of populations, unlike the larger student population and respective sample. Nevertheless the total population, as well as the student population, does provide a basis for comparison to determine how closely the stratified group data represents the entire population.

Survey respondents who rarely or never read the UW-Stout University Library newsletter answered the survey questions based on hypothetical situations. Respondent answers may differ from the answers they would provide given a more thorough familiarity with the newsletter.

The possibility exists that respondents either intentionally, or unknowingly did not answer the survey questions in accordance with future behaviors under hypothetical pretense.

Recommendations were made based upon the researcher's familiarity with the University of Wisconsin-Stout University and Library's culture, mission, and goals as a familiarity with the procedures used in determining newsletter content, editing, publishing, and distribution of the University Library newsletter.

Methodology

An email invitation to participate in this study was sent out. The email contained a link to an online survey and was sent out to a stratified sample of students, faculty, and staff of the University of Wisconsin – Stout. The online survey was administered through Qualtrics. Survey data was collected and subsequently analyzed in order to determine University Library newsletter readership rates for each stratum. Additional data was collected to assist in determining existing patterns in reading habits and preferences with regard to the content and delivery of the University Library newsletter.

Chapter II: Literature Review

The American Library Association (ALA) (2012) has declared that, increasingly, University Libraries are expected to take a primary role in teaching patrons information literacy skills. Further, the ALA has found that the six regional college and university accreditation agencies have chosen to include information literacy in their accreditation standards. An opportunity exists for the University Library Newsletter to serve as a tool to improve the information literacy of students and faculty by teaching and encouraging the practice of the skills necessary in achieving information literacy. However, in order to take advantage of this opportunity, it may be prudent for the UW-Stout University's library to evaluate the current role the newsletter plays in achieving this goal

A review of the literature covers a wide range of performance improvement concepts necessary to achieve desired outcomes. This review incorporates these concepts and divides them into four general themes that recur in the literature. These four themes are; challenges that libraries face; the various roles that data collection, analysis, evaluation, and application take in forming the basis for continuous improvement; potential advantages of using a data-driven approach to decision making; and how metrics can be useful for guiding performance evaluation and improvement, measuring success in meeting organizational goals and objectives, guiding employee motivation and measuring compliance with organizational policies and procedures.

Challenges Faced by Libraries

Information literate people will be able to effectively gather, use, manage, synthesize and create information and data (Society for College, University and National Libraries [SCONUL], 2011). Information literacies include digital, visual and media literacy, academic literacy, information handling, information skills, data curation, and data management.

One of the challenges discussed in the Seven Pillars of Information Literacy is that there exists a comprehensive skill set that must be developed and constantly refined in order to keep pace with emerging information technologies (SCONUL, 2011). The Society of College, National and University Library's Core Model for Higher Education (See Appendix E) includes specific elements that together compose a set of competencies, attitudes, and behaviors referred to as the Seven Pillars of Information Literacy. The seven pillars are (1) identify, (2) scope, (3) plan, (4) gather, (5) evaluate, (6) manage, and (7) present.

Identifying involves the need to recognize that there is a personal need for information. Scope refers to the ability to assess current knowledge and identifying knowledge gaps. Planning includes the construction of strategies used to locate information and data. Gathering refers to the ability to locate and access necessary information and data. Reviewing the research process and comparison and evaluation of information and data is part of the evaluation process. The management pillar refers to the information literacy skill of organizing information in a professional and ethical manner. The final pillar, presentation, is the demonstration of the ability to apply knowledge that has been gained; present research results; and synthesize new and old information and data in order to create new knowledge and disseminate that knowledge in a variety of ways.

Information literacy skills are a fundamental building-block of lifelong learning. These skills are important not only to academic success, but also to future job success. Students and employees who are able to keep pace with emerging technologies and use them in a skillful way put themselves at a major advantage. Such advantages will pay dividends in better achievement in the areas of academics and careers. Recognizing the opportunities presented by a specific course of action is often the first step toward progress.

As things stand now, there are otherwise talented students whose lack of information literacy skills limits their potential. In fact, it is not unusual for students to change research topics to accommodate a much simpler topic search. Generally, the current plan to teach students these basic skills does not include information literacy coursework. Therefore, the importance of students being able to pick these skills up through means that are beyond the basic requirements of their coursework necessitates that the needed skills must be learned on a “just in time” basis. This method may not be the most effective way to deliver such important information that is fundamental to future growth potential.

Lampert (2006) has pointed out that searching and evaluation of research sources are skills that users of emerging information technology commonly struggle to develop. SCOUNL (2011) has reasoned that information literacy deserves careful consideration and planning with regard to both the delivery and consumption of information. Evolving information and technology needs impact the methods libraries utilize to deliver information. The needs of library patrons change as new technology emerges. Technological changes create the need for them to adapt their information literacy skills accordingly.

The American Library Association (ALA) (1989) has pointed out that the changes brought about by technology, and a shift toward an information society, exert pressure on libraries in unprecedented ways. Creating additional pressure on libraries is the fact that they are expected to adapt to changes in information delivery methods with additional, increasing financial constraints. These conditions have made it necessary for libraries to adapt their practices to become more in line with private sector businesses.

Information needs. ALA (1989) has acknowledged that the emergence of the information age offers great challenges. As information becomes more plentiful Jones (2005) has

suggested that the technology used to store, organize and access that information has resulted in an increasingly fragmented information base. The result is that information is more difficult to access and utilize. In order to reap the benefits of the tremendous amount of information available, it is necessary to continually develop and maintain information literacy skills.

SCONUL (2011) has listed “gathering” as the fourth pillar of their information literacy model. In order to develop information literacy skills, library patrons must be able to not only locate and access information they must also be able to evaluate resource quality by following established guidelines. Lampert (2006) has acknowledged the challenge that exists in influencing and improving students' information literacy skills when they have grown accustomed to accessing information from resources such as Google and other internet search engines.

The challenges presented in improving these digital native's information literacy skills is underscored by the need to locate and access quality information resources as a requirement of SCONUL's fourth pillar (Kolowich, 2011). Despite the logical assumption that digital natives should be information literate, findings to the contrary are discussed. Search query skills in using Google and other more scholarly information databases were found to be deficient. These deficiencies were found to exist even with students who were academically successful before college. Student's basic search skills are so lacking that it is not unusual for them to change research topics to something more amenable to a simple search. Shortcuts are a disservice to students because such an approach impedes the development of the information gathering and critical thinking skills that are fundamental information literacy building blocks.

The need to adopt business practices. It is important for academic librarians to innovate and adopt ideas that are traditionally used in the business sector (Bell, 2009). It is prudent for librarians to be mindful that education is moving toward an increase in accountability as a

response to the financial pressures educators face. Further complicating matters, librarians need to be selective when making decisions about which business practices to adopt.

It is prudent for libraries to adapt select business principles, tools, and concepts to a library setting (Murphy, 2011). The American Library Association (ALA) has available resources that academic librarians may find helpful in guiding the adoption of business practices in a library setting. It has been suggested further that librarians view their jobs as that of an information broker or consultant. Other examples of business practices that Murphy (2011) has suggested implementing include creating a sophisticated brand and creating a culture that embraces continuous improvement. Continuous improvement practices are more in line with those traditionally used in private sector business applications. Such practices present a learning opportunity concerning operation at the institutional level and further the mission of the library. Challenges presented to libraries are significant. The resulting changes in methods libraries use to share information and resources are accompanied by the need to balance financial issues (Johnson, 2011).

Doing more with less. Academic libraries are facing both a world of significant budget restraints and many competing demands for the limited resources they have available (Sarjeant-Jenkins 2012). Libraries are increasingly forced to compete with alternative information sources, many of them free and easily accessible over the internet. Unlike their public library counterparts, academic libraries are seeing a decrease in circulation due partly to a changing service philosophy. Additionally, there is a trend where the statistics traditionally gathered by which libraries have been measured against no longer make as strong a case for the utility of academic libraries.

According to UW-Stout Chancellor Charles Sorensen, the 2011-2013 biennial budget for the University of Wisconsin System included \$315 million in budget cuts (UW-Stout News Bureau, 2013). Sorensen had commented, “It is hard to understand why the administration would choose to impose such a large cut on the UW System....all we seem to get are cuts after cuts after cuts” (Anderson, 2011). These budget cuts affect the UW-Stout Library on multiple levels. Due to collaboration with the UW Library System, system-wide constraints are placed on the library in addition to the budget cuts made at the local level at UW-Stout. As a result, the University Library has been forced to prioritize resources, resulting in service reductions and cuts to the library’s hours of operation (UW-Stout, 2011).

Even large academic libraries, some that have traditionally been the beneficiaries of large endowments, are feeling strong financial pressure. The Northeast Research Libraries (NERL) consortium (2008) has reported that Yale University experienced budget reductions on the order of 10% for Fiscal Year 2009-2010. In short, many libraries are experiencing tightening budgets.

NERL (2008) has emphasized that due to the intangible nature of information, librarians have found themselves being easy targets for budget reductions. Yet, Kolowich (2011) and Murphy (2011) have declared that they are expected to adapt to changing consumer expectations and a shift in the information environment. There is an overall trend where both traditional and electronic resources are experiencing increasing usage: However, that is accompanied by a decrease in funding in many instances. Increasingly, academic libraries are asked to provide quality services, yet they are provided with fewer resources to accomplish their goals. As a result, Oder (2010) has emphasized the increased importance of finding creative solutions by sharing resources such as library management systems, management of digital resources, and cataloging. He also has addressed the increased importance for libraries to perform rigorous

analyses and seek to demonstrate the value of their services in the support of teaching, learning, and research.

Continuous Improvement

Following the defeat of Japan in World War II, the United States began assisting with the rebuilding of Japan. Dr. W. Edwards Deming, a noted statistician at the time, recognized some of the difficulties that newly emerging industries encountered while he was doing work for the United States Government in Japan (Pennsylvania State University [PSU], 2006). Eventually, Deming assisted Japanese companies in the implementation of continuous improvement efforts. It is out of this era that the concept of continuous improvement was born. One of the ideas that stems from Deming's efforts is that decision making greatly improves with relevant data analysis.

The late 1950's and early 1960's have provided sweeping changes in business and industry. The rapid technological changes that took place increased the need of businesses and industry to become increasingly efficient to remain competitive (Deming, 2000). Both the rebuilding of Japan after World War II and the need for companies to remain competitive in the face of rapid changes in technology were major catalysts for the continuous improvement movement that remains relevant more than half a century later.

The American Society for Quality (ASQ) has endorsed continuous improvement as collective, ongoing efforts to improve products, services or processes (ASQ, 2013). Further, they have asserted that data collection and analysis are an integral part of continuous improvement. Continuous improvement is guided by widely used tools that are part of a four-step quality model (as cited in Tague, 2004). ASQ has outlined the plan-do-check-act (PDCA) cycle of continuous improvement to include the following:

1. Plan: Identify opportunities and plan the necessary changes.
2. Do: Pilot the changes.
3. Check: Collect and analyze data concerning the change, then evaluate the results.
4. Act: Depending upon the results of the data analysis, implement the changes on a wider scale and continuously evaluate the results. If the results of the change were unsuccessful, begin the cycle again.

Meaningful, valid data provides an effective starting point to any continuous improvement effort. W. Edwards Deming (2000) has outlined data collection practices that he utilized in his role as a pioneer in continuous improvement. Deming brought a belief to industry that in order to make sound decisions, it is necessary to collect and analyze data. The importance of collecting data is illustrated by the inclusion of data collection and analysis in the PDCA model. Data collection with an eye toward continuous improvement supports the creation of constancy of purpose toward the improvement of products and services.

Deming (2000) insisted that the PDCA model, or what he refers to as the Shewhart Cycle, is a helpful procedure to follow in an effort to engage in continuous improvement. An integral part of identifying opportunity in the planning stage of the model involves planning data collection and making decisions on how that information will be used. The second stage of the model is carrying out the actions planned in the first stage. It is a testing or experimental stage. In the third stage, the observed effects of the actions carried out in the previous stage are observed. In the fourth stage, the data gleaned from the previous stage is evaluated. Once evaluated, the cycle continues indefinitely.

Continuous improvement stems from the ability to make incremental improvements while making a careful study of the interaction of changes in one or more stages of the Shewhart

cycle (Deming, 2000). This interaction reflects the belief that all parts of a system are interconnected.

Systems thinking was part of the reinvention of UW-Stout that eventually led to being awarded the Malcolm Baldrige National Quality Award in recognition of performance excellence (Green, 2002). UW-Stout Chancellor Charles Sorensen cited two elements that played an integral role in Stout's work toward winning the Baldrige award. The first element was a shift of paradigm toward viewing the campus not as a collection of isolated departments, but rather a set of systems that all relate to one another in some way. Another fundamental element of change leading to UW-Stout's continued success was thinking in terms of continuous improvement. Rather than looking backward, university leadership began envisioning what the university will look like in the future. Just as important were decisions concerning the actions that must be taken and the conditions that need to be met to guide the university toward this future vision.

Performance improvement. Performance improvement is dependent upon careful analysis in order to accomplish high performance returns (Swanson, 1994). The University of Wisconsin-Stout places so much value on following a course leading to continuous improvement that it specifically mention the concept in the University of Wisconsin-Stout values (University of Wisconsin-Stout, 2012). By analyzing and interpreting data, subsequent decisions can be made to implement continuous improvement initiatives that lead to desired outcomes.

There are five phases of improving performance (Swanson, 1994). They include (1) analyze, (2) design, (3) develop, (4) implement, and (5) evaluate. Unfortunately, organizations often discover the importance of analysis after spending considerable time and money in the latter phases. Efforts that concentrate primarily on the design, development, and delivery phases tend to have little or no positive impact on performance improvement initiatives. If a

performance improvement initiative is not properly aligned with organizational goals from the start -- the analysis stage -- the odds of success are dismal. Analysis tends to be discussed at length by those whose intent is to achieve performance improvement. Nevertheless, findings backed by research and experience reflect that the analysis phase of performance improvement initiatives is the most poorly managed.

Organizational diagnosis and the documentation of expertise can mean intense investigation for one individual, or a simple and routine activity to another (Swanson, 1994). How the analysis phase is carried out is the main factor in whether or not performance improvement efforts support major business processes or are simply a series of activities. Williamson (2006) has emphasized that measuring, or collecting data, is not about the numbers, but more about the improvement brought about by working toward measurable, observable goals.

Data collection and analysis. There are many methods in existence for the collection and analysis of data. As has been observed by Lee and Nelson (2010), the consistent use of a systematic approach achieves the results required for an effective needs assessment. A thorough needs assessment consists of identifying a purpose; identifying the necessary information; identifying the source of the information; collecting data; analyzing data; reporting the results of the data analysis; applying those results; and evaluating the outcome of the application of those results.

Data assessment and decision-making are essential elements of continuous improvement efforts. Lee and Nelson (2010) outlined the importance of including data collection and analysis to identify performance gaps. Therefore, establishing a data collection process is fundamental to any continuous improvement strategy. The existing performance gap, the difference between

existing performance and desired performance, serves as a measure that defines the level of need as well as the extent of a problem, or the potential magnitude of pursuing an opportunity that has been discovered based on the collection and analysis of data. Additionally, this process allows for the establishment of a baseline of current performance against which future performance can be compared. The degree of success realized as a result of these changes can be measured or assessed by the end result. Accordingly, these findings are supported by continual improvement of methods and procedures as has been claimed by Deming (2000).

Data-driven decision making and evidence-based management. In 1641 Rene Descartes proposed that reasoning was superior to experience as a means for gaining knowledge (Buchanan & O’Connell, 2006). Nevertheless, there is room for former General Electric Chief Executive Officer, Jack Welch’s “straight from the gut” leadership style in cases where there is no precedent.

In both the public and private sectors, managers are increasingly being called upon to employ the use of evidence-based management as part of a best practices approach to decision making (Juniper, 2012). Evidence-based management evolved from the practice of evidence-based medicine, which is rooted in 19th century philosophy. Evidence based medicine is “the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients (Sacket, Rosenberg, Muir Gray, Haynes & Richardson, 1996). Juniper (2012) has argued that evidence-based management calls for a bottom-up approach which integrates evidence and organizational context into an improved approach to informed decision making. Evidence based management, similar to Data-driven decision making (DDDM) is the conscientious, explicit, and judicious use of data (evidence) guiding decisions involving the “care” of an organization.

Data-driven decision making (Marsh, Pane & Hamilton, 2006) is the process of collecting and analyzing data to guide the decision making process. Data-driven decision making is a decision making strategy used in the public and private sectors. The general principles are equally applicable in either environment and have several benefits. Lohr (2011) has claimed that the results obtained by using data in the decision making process can be the difference between success and failure in most industries because of the economic implications of crucial decisions. The results of such an approach can transform the performance of organizations in numerous areas. Marsh, et al. (2006) has noted that Data-driven decisions can assist in creating an organizational culture that is more cooperative and working toward common goals. Further, administrators have found success in using data to make critical decisions for goal setting and planning according to Marsh, et al. (2006).

Data versus intuition. Decisions based on data, rather than decisions based solely upon experience and anecdotal evidence, lead to better outcomes. Davenport (2006) has noted that companies have built their businesses on the ability to collect, analyze and make decisions based on data. In comparing and contrasting high performing organizations with their lower performing counterparts in the same field, Davenport (2006) has acknowledged that high performing organizations were found to use data-driven decision making processes roughly three times more extensively than their lower performing counterparts. Data collection and the subsequent decisions based on analysis, therefore, are an indicator of successful organizations.

Lohr (2011) has maintained that data-driven decisions achieve better results than using traditional management methods of applying experience and intuition. A Massachusetts Institute of Technology study examined 179 large companies that had adopted DDDM. The companies

studied were found to have increased productivity by 5% to 6% over their counterparts who were not utilizing DDDM (Brynjolfsson, Hitt, & Kim, 2011). The study included a survey and follow-up interviews. For the purposes of the study, DDDM was defined, not solely as the collection of data, but by the ways it was used in making important decisions such as whether or not to bring new products or services to market. The main factor used to distinguish between types of decisions in the study was the utilization and subsequent analysis of data, as opposed to the traditional management approach of reliance upon experience and intuition.

Business executives often rely on their intuition to make crucial decisions (Hayashi, 2001). Conversely, quantitative decision-making is something that middle managers must rely upon heavily. Senior managers sometimes face more complex, ambiguous problems where the time to collect and analyze data is not a luxury afforded to them. The higher up the corporate ladder people climb, the more they will need to occasionally rely on business instincts. Intuition is one of the intangibles that sets an average business person apart from an exceptional executive.

Intuition and information do not have to be mutually exclusive decision-making mechanisms (Buchman & O'Connell, 2006). Few decision makers will ignore good information, when available. Yet, they also accept that they will be called upon to use intuition *and* rely upon their business instincts at times. A survey of the literature affirms that data and intuition both have their place in decision making processes. Based upon the literature, one could reasonably draw the conclusion that in some instances that the marriage of data and intuition may be a formula for success.

Advantages of a Data-Driven Approach

Technology Alliance (2005) has noted the following advantages of using data to make decisions. They emphasize that data can:

1. Uncover problems that might otherwise remain invisible.
2. Convince people of the need to change.
3. Confirm or discredit assumptions.
4. Get to the root cause of problems, pinpoint areas where change is most needed, and guide resource allocation.
5. Help evaluate program effectiveness and keep a focus on results.
6. Provide feedback to help keep on course.
7. Prevent one-size-fits-all and knee-jerk decisions.
8. Lead to accountability.
9. Lead to a culture of inquiry and continuous improvement.

Building support. Research from Marsh, et al. (2006) has documented that piloting DDDM initiatives incrementally is useful in building support and achieving increased stakeholder buy-in. By building trust one step at a time, it is possible to showcase small successes. In building trust and success through piloting DDDM, stakeholder buy-in is achieved and the resulting data believers can be utilized as a means of building momentum and achieving more widespread support for DDDM projects. Buy-in (cooperation of important stakeholders) is of critical importance to DDDM initiatives. In order to achieve desired outcomes, building trust, support, and cooperation; are major elements of stakeholder buy-in that must take priority. However, if the necessary steps are taken to build trust and achieve buy-in, Lorr (2011) has emphasized that there is potential to achieve exceptional results.

Goals and planning. Data-driven decision making can be helpful in making informed decisions. Such decisions can include goal setting and planning. Marsh, et al. (2006) have pointed out that evaluating effectiveness of practices and making assessments of progress to

measure whether or not stakeholder needs are being met, and to what degree, allows for reallocation of resources and improving the processes that will ultimately impact outcomes. These decisions can affect data that informs, identifies specific goals or needs, and calls for reallocation of resources. Once a decision to take action is made, additional data is collected and analyzed to evaluate the actions taken. These actions lead to a continuous cycle of collection, organization, analysis and evaluation of the data. This approach allows for continuous improvement, not only in goals and planning, but additionally in decision making. Marsh et al. (2006) has cautioned that without the availability of quality data, data-driven decisions can lead to misinformation or arriving at invalid conclusions.

Using metrics to evaluate and improve performance. The literature indicates that there are six important factors to consider when establishing metrics to evaluate and improve performance. Be mindful of the following:

- 1) Establish measurements with actual, tangible improvements in mind.
- 2) Develop metrics that reflect variables the researcher intends to measure.
- 3) Metrics can be a valuable tool used to evaluate the degree of success in meeting organizational goals and objectives.
- 4) Metrics can be used for budget allocation.
- 5) Metrics are a tool that can be used to motivate the workforce.
- 6) Compliance with organizational policies and procedures can be assessed using metrics.

According to Doran (1981), “The establishment of objectives and the development of their respective action plans are the most critical steps in a company’s management process.” Metrics can be used to create context for data collection and to evaluate performance against organizational objectives. Davenport (2006) has insisted that businesses today will improve their

performance if they establish metrics and install company-wide practices of measuring, testing and evaluating data. Organizations must take care in making decisions concerning what they measure by choosing the metrics they use carefully. Otherwise, it is possible to obtain invalid data that inadvertently does not measure what was intended.

Metrics are among the most powerful business tools managers have available (Treace, 2012). However, neither the act of measuring performance metrics, nor the resulting data accomplish anything. Power metrics do the opposite of heaps of useless information; they help to predict the future with a high degree of accuracy. It is only when relevant metrics exist when there is any value in the vast amounts of data available to managers. Appropriate metrics direct attention to those things that are working, as well as those that are not.

Establishing measurements. In 1883 Lord Kelvin, whose theory created a new measurement of temperature that includes absolute zero, is credited with having said, "If you can not [*sic*] measure it, you can not [*sic*] improve it." A similar line of thought, Williamson (2006) has confirmed, "What gets measured gets done." It is impossible to manage something not measured. It is important to be mindful that the end goal of measurement always needs to be actual, tangible improvement. Acting upon measurement serves as the fulcrum for change. It does bear mentioning that one common pitfall exists; an organization can become so sidetracked with metrics and measuring that it becomes easy to overlook the need to measure only those things that really matter.

A metric is a standard measure used to assess performance in a specific area. Lee and Nelson (2010) have declared that metrics are at the heart of any continuous improvement program. Performance standards are reflected by the metrics used to assess an organization's progress in meeting specific business objectives. Employee absenteeism is a specific business

metric that may be used as an indicator of organizational health. Often, business metrics are thought to be measurements of financial elements such as output capacity, market share, profitability, or any number of other factors. However, metrics can be used to measure how well needs are met within any organization, even those needs that do not directly relate to profit. Discussion often revolves around what to measure, how it will be measured, and what success looks like. It is important to define what success looks like as a preliminary step.

Choosing SMART metrics. Williamson (2006) has suggested that the first step in developing metrics designed to measure performance is to determine the important priorities of the organization. Developing metrics capable of measuring performance is important, as is choosing metrics having a specific purpose which reflect precisely the variables the researcher intends to measure.

The use of SMART metrics is strongly encouraged (Doran, 1981; University of California, 2005). Smart metrics are; specific, measurable, attainable, realistic, and timely. Specific metrics target the precise area where measurement is desired. Metrics should be clear, focused and not open to interpretation. Rather than measuring customer satisfaction for a specific product based on the number of returns or the number of customer complaints, a better measure might be to obtain direct customer feedback indicating how they feel about your products or services. A measurable metric is something that can be measured by accurate data. An attainable metric is a metric that clearly can be achieved. It is credible and reasonable under normal circumstances. Realistic metrics are simply metrics that fit an organization's constraints, including cost. Just because something is measurable is not justification to create metrics and obtain data. Finally, timely metrics are those metrics where data can be obtained in a timely

manner. If it is impossible to collect data in a timely manner, an organization cannot act upon the information. Therefore, tracking untimely metrics is costly and unproductive.

Evaluation. Data analytics (DA) is the process of analyzing and evaluating data with the purpose of drawing conclusions based upon that information. Data analytics is one step of the DDDM process and can allow organizations to make better decisions. Based on statistical inference, data analytics allow comparison against metrics as a measure of success in meeting established organizational goals. (Rouse, 2008).

Evaluation is one of the primary reasons to develop metrics and measure performance. Business firms all measure performance, and as Behn (2003) has insisted, "Everyone knows the private sector is managed better than the public sector" (p. 586-587). Many of the techniques used to develop performance evaluation metrics come from the field of program evaluation. Often, the reason for evaluation of performance is assumed, and no reasons are given for measuring performance. Further, is it not unusual that the rationale for measuring performance does not include acknowledgement of other purposes. Performance measurements can provide vital information to evaluate whether problems are worsening or improving (National Academy of Public Administration, 2010).

Budget allocation. Performance metrics are helpful in assisting leadership to make budget allocation decisions. Decisions regarding budget can be made based on analysis. It may be determined that a specific project does not return desired results and the decision may be made to eliminate the project. On the other hand, it may be determined that a project is unsuccessful due to a shortage of funding. In the latter case, reallocation of resources may be called for in order to improve the chances for success for the project. When metrics indicate that

programs or services provide a good return on investment and achieve high levels of success in meeting organizational goals, leadership can use these performance measures when making decisions regarding budget allocation. However, in order to make sound financial decisions, established metrics must account for direct, obvious costs as well as hidden costs.

Motivation. Managers often use performance metrics to motivate employees to improve their performance. When leadership understands what it takes to improve performance, providing a metric to quantify that performance is a tool that can be used for motivation. Measures of performance can be very effective for this purpose. Metrics serve to set achievable goals while providing the motivation for people to stretch their abilities. Measurement of progress in meeting goals is effective in motivating people to reach realistic goals and is a means of providing useful feedback. Also, setting goals with associated metrics serves as motivation to seek out innovative ways of doing work. In turn, innovation motivated by improved performance enhances learning. In order to motivate people, leaders need timely metrics that measure outputs for timely feedback to compare existing performance with desired future performance.

The need to motivate employees may be a misguided concept (Deming, 2000; Joiner, 1994). The culture of an organization must be developed consistently in a manner where competition evolves fully into a team concept. One foundational element of building a team-based culture is treating everyone with dignity, trust, and respect. When management operates from a standpoint where they believe in people, they take on a role that removes barriers to performance improvement. In doing so, the emphasis is placed not on motivating people, rather on removing the barriers that can get in their way (Mager & Pipe, 1997). In other words, the focus must shift from motivating people to removing de-motivators; those things that impede doing high quality, productive work.

Conversely, Herzberg's two-factor theory states that hygiene, or extrinsic factors in the workplace cannot provide job satisfaction (Werner & DeSimone, 2009). Rather, they only prevent job dissatisfaction. Whereas intrinsic or motivator factors can create feelings of job satisfaction, but will not prevent job dissatisfaction caused by hygiene factors. According to the two-factor theory, workers can be motivated when hygiene factors are present, which prevents dissatisfaction. Once hygiene factors are present, only then can adding motivator factors create job satisfaction.

Examples of hygiene factors, or factors that are extrinsic job conditions, include job security, salary, benefits, and work conditions. Company policies and practices are also examples of hygiene factors that alone do not provide satisfaction. However, absence of them will most certainly result in dissatisfaction.

Motivators based on Maslow's hierarchy of needs are intrinsic to the job itself and include such factors as physiological needs for survival, (to stay alive and reproduce) and security (feeling of safety), which are the most fundamental and pressing needs. Those needs are followed by social needs, such as for love and belonging; and self-esteem needs such as feeling worthy, respected, and to achieve personal recognition, growth, and increased responsibility and status. The highest level of Maslow's hierarchy of needs is self-actualization.

Given positive hygiene factors, motivators can contribute to job satisfaction. However, absent the basic needs of job hygiene, motivators alone will not provide workers with job satisfaction. By using metrics to measure these factors, attempts at motivating the workforce can be more easily met with success.

Compliance. Modern management styles give latitude which allows for a degree of autonomy as employees carry out their duties (Deming, 2000; Joiner, 1994). However, that does not diminish the fact that managers sometimes seek to control the behavior of employees.

Performance measurement is based on expected behaviors. Metrics can be useful in determining whether employees have performed specified behaviors. The metrics used to gauge deviation by individuals, or employees collectively, are based on standards established by management. Despite the potentially negative connotations associated with control, this aspect of using metrics to gauge performance allows management to determine if employees are carrying out their duties as expected. When guidelines are established, they are actually requirements for compliance. Established metrics can be mechanisms of control used to enforce guideline compliance.

Those who take an activity-oriented view of human resource development, continuous improvement, and performance improvement are often unwittingly driven by compliance concerns rather than performance (Swanson, 1994). Such a misguided approach ends up driven by program delivery and activities rather than the desired goal of performance improvement necessarily tied to organizational goals. Performance improvement must be deliberately executed with the emphasis being placed on mastering the work, as opposed to mastering the worker.

Summary

A review of the literature indicates that libraries are increasingly being called upon to operate more like a business. Given the extreme budget constraints academic libraries operate under, it is important that every action taken results in maximizing utility of all allocated resources. It is important to utilize a similar continuous improvement strategy to that which earned the University of Wisconsin - Stout the Malcolm Baldrige Award for Quality.

Further, the literature demonstrates successes organizations can realize when practicing appropriate data collection and analysis methods. The strength lies not in the collection of the data itself, but rather in the decision-making processes being guided by an appropriate combination of data analysis and business intuition. The literature supports the conclusion that, generally, neither data, nor intuition alone will lead to desirable outcomes. In cases where immediate, decisive action is not necessary, Data-Driven Decision Making is a valuable tool that often leads to desirable outcomes.

Chapter III: Methodology

The purpose of the research performed was to identify opportunities to better meet the needs of the UW-Stout University Library Newsletter's intended audience. The intended audience of the newsletter includes UW-Stout students, faculty, and staff. The information gathered as a result of this study was used to determine how the newsletter can better serve the needs of the intended audience and to assist the University Library in achieving its mission through the use of the newsletter.

A pilot study was performed by the researcher prior to this study. The study consisted of a survey distributed to University of Wisconsin – Stout library patrons. A one page survey was administered for the pilot study. The sample size, breadth of the study, and statistical analysis involved in the pilot study were limited due to time constraints and the need to gather information helpful in planning a formal research study. Information and trends that were discovered during the initial pilot study proved helpful in developing a framework for a more in-depth study by uncovering themes that were proven to recur when research based on a larger sample was performed.

This chapter covers a description of demographics, the sample selection process, procedures used for data collection, the survey instrument, data collection procedures, data analysis, and limitations of the study. Key areas addressed by this study include newsletter content, readership preferences regarding both page count and frequency of newsletter distribution, and newsletter readership rates.

The survey questions (see Appendix D) asked of all respondents, served as a basis for data collection and analysis. Respondents were not required to answer each question, nor complete the entire survey. The data provided in incomplete surveys was included. The rationale for including information

from incomplete surveys is that all information provided was valuable to the data analysis process. The survey instrument, along with all necessary documentation was submitted to the University of Wisconsin-Stout's Institutional Review Board to assure that all aspects of this study met the ethical obligations required by federal law and University policies.

Demographics

The following data with regard to student, faculty, and staff were derived from the UW-Stout 2011-2012 Fact Book, courtesy of the Office of Planning, Assessment, Research and Quality (PARQ). This data is useful in gaining a better understanding of the intended target audience of the UW-Stout University Library Newsletter. However, note that the data will vary slightly from the 2013 population which was the subject of this study due to 2012-2013 data unavailability at the time of this study. At UW-Stout as of the fall semester of 2012 there were

- 8,270 undergraduate students;
- 977 graduate students;
- a combined total of 9,247 undergraduate and graduate students with a 50% male to 50% female ratio;
- 84% of students age 29 and under.

Faculty and instructional staff are referred to collectively as faculty, for the purposes of this research. A headcount of faculty and instructional staff for 2011-12 consisted of

- 273 faculty;
- 204 instructional staff;
- a total of 477 faculty and instructional staff, referred to collectively as faculty.

Academic staff and classified staff are collectively referred to as staff, again for research purposes. Staff for the 2011-12 year consisted of

- 232 professional academic staff;

- 540 classified staff;
- And an aggregate total of 772 academic and classified staff.

Sample selection. A stratified random sample was chosen from University of Wisconsin-Stout students, faculty, and staff. The statistics that follow vary slightly from the previously listed data since sample selection was performed in 2013 and the previous data is based on information published in the UW-Stout 2011-2012 Fact Book published by PARQ (see Table 1).

A formal request for a stratified random sample was submitted by the researcher. The requested sample consisted of three strata of random samples from each category of the following; students, faculty, and staff. The request for sample was fulfilled by the institutional planner from PARQ.

A sample consisting of 15% of each respective population of UW students, faculty, and staff was randomly chosen for an invitation to participate in the study. There were 70 faculty were chosen from a total population of 466; 1,289 students were chosen from a total population of 8,593; and 118 staff were chosen from a total population size of 786 people. The aggregate total of invitees was 1,477 out of 9,845 students, faculty, and staff.

The importance of using a stratified random sample was to determine what relationships exist between specific populations and their preferences and reading habits with regard to the University Library Newsletter. For instance, it was important to determine if instructors were significantly more likely to prefer particular content types that may better meet their needs or their student's needs as they relate to their course work and research. This approach assured the ability to assess the specific needs of UW-Stout University Library Newsletter readers as those needs apply to their unique roles and responsibilities within the university.

Table 1

Intended Audience of UW-Stout University Library Newsletter

| Category | Population | Sample Size |
|----------|------------|-------------|
| Faculty | 466 | 70 |
| Students | 8,594 | 1 |
| Staff | 786 | 118 |
| Total | 9,845 | 1,477 |

Instrumentation

A survey was written and administered specifically for the purposes of this study. A similar survey instrument was created and used for a small-scale pilot study where the population consisted of a simple random sample of University Library patrons. The subsequent survey was revised based on information collected and analyzed during the pilot study. Information gathered during the pilot study was collected for further analysis as a part of this research.

Survey questions were used to gain a better understanding of areas of opportunity. Of specific interest is the need to better serve readership by creating an awareness of library services that students, faculty, and staff have access to. The goal is to further assist these populations by meeting their scholarship and research needs. Quantitative and qualitative data were collected as part of this study.

Data Collection Procedures

A survey was administered using the Qualtrics online survey platform. A total of 1,477 people were invited to participate in the study. All included participants were part of the UW-Stout University Library Newsletter's intended audience. Invitees were emailed an initial

invitation to participate in the study through the Qualtrics platform. In an effort to increase response rate and reduce non-response bias, two follow-up emails were sent to non-respondents; one at 7 days, and another at 14 days. Non-respondents were tracked anonymously within the Qualtrics online platform to assure they were sent reminder emails. A link to the online survey was included in each of the emails sent to invitees.

The survey questions presented were used to identify specific trends that could potentially provide opportunities to better serve newsletter reader's needs and further the mission of the UW-Stout Library (see Appendix D). Study participants were provided with an informed consent form stating the purpose of the study, explaining that their participation was voluntary and that they could end the survey at any time without further obligation. The survey contained a total of 15 questions. Items included in the survey utilized Likert Scale ratings, rank-order, qualitative input, and multiple choice questions and was administered using the Qualtrics online survey platform. Respondents were not required to answer all survey questions in order for their responses to be tallied.

Data Analysis

Qualtrics online analysis tools were used to calculate descriptive statistics, while Microsoft Excel was used to run χ^2 significance testing. Using $\alpha = 0.05$, χ^2 tests for significance were run to determine if the differences between student, faculty, and staff responses were statistically significant. Significance testing allows the researcher to make assumptions about the parameters of the population from which samples are drawn. In cases where the calculated p-value is < 0.05 , statistical significance is found. Significance testing using $\alpha = 0.05$ demonstrates through statistical methods that 95% of the time such sample would not occur by random chance

in those cases where the calculated p-value is < 0.05 . In the social sciences $\alpha = 0.05$ is a widely accepted threshold for statistical significance.

Chapter IV: Results

The primary purpose behind this research was to determine if the UW-Stout University Library Newsletter meets the needs of the students, faculty, and staff that make up the intended reading audience. Survey questions provided to those who participated in the study ask about their respondent's reading habits, newsletter content preferences, the likely impact changes would make on their current reading habits of the University Library Newsletter, and demographic information helpful in determining the specific needs of the three categories of newsletter readers among the intended audience; students, faculty, and staff.

Survey results indicate areas where opportunity for improvement exists as well as providing an indication of areas where existing strengths provide foundations to build upon. Starting in Appendix A, there is a comprehensive listing of tables useful in analyzing the information collected from survey respondents. The tables include descriptive statistics such as frequencies, percentages, proportions, means, standard deviations, and variances where appropriate. In addition to descriptive statistics, Where appropriate, significance test calculations are provided to show relationships among groups. Finally, there is a listing of all qualitative data submitted by respondents. Data is further broken down for questions based on those who categorized themselves as newsletter readers and non-readers; as well as for those who categorized themselves as being never, rarely, sometimes, or often readers of the newsletter.

Pearson's χ^2 significance tests were used to identify statistically significant differences among the groups, or alternately if there was a tendency toward agreement among groups. In performing a χ^2 significance test, the lower the calculated P-value, the stronger the evidence is that there is a statistically significant difference among groups. However, strong evidence of an association is not an indicator of the strength of the association itself.

A χ^2 significance test indicated that there are statistically significant differences among students, faculty, and staff regarding the frequency with which each group reads the newsletter. Data indicates faculty are the most frequent readers of the newsletter. Still, 52% of faculty indicated that they never read the newsletter, while 24% indicated that they rarely read it. The data for staff and student readership show even lower readership rates. Of those surveyed, 73% of staff members indicated that they never read the library newsletter, and 77% of students indicated they have never read it. Of those surveyed, 94% of students indicated that they never or rarely read the newsletter. This is particularly important to note, given the large proportion of the target audience made up of students (see Figure 1).



Figure 1. Intended Audience of the University Library Newsletter

Qualitative data provided by respondents indicates that increased visibility, a better awareness of the newsletter's existence, and more direct distribution methods are areas that could be targeted for improvement. Seventy-three respondents who provided qualitative data indicated they do not read the newsletter. Of those 73 respondents, there were 32 who expressed a lack of

knowledge that the newsletter existed, a lack of knowledge where the newsletter can be accessed, or both.

Survey respondents said that they are more likely to read the University Library Newsletter if it contains less content and is distributed more often. A χ^2 significance test indicated there were no statistically significant differences among students, faculty, and staff with regard to this. Therefore, the implication is that the three groups are in agreement that they are more likely to read a newsletter distributed at more frequent intervals with less content. In fact, 61% of those surveyed and 65% of respondents who have never read the newsletter said they would be more likely to read the newsletter if it contained 1-3 pages.

An interesting trend emerged from the data. Survey respondents were more likely to read the newsletter if it was distributed monthly in all categories. However, the more often respondents read the newsletter, the more likely they said they were to read the newsletter if it was distributed monthly. Respondents were broken down into four groups based on how often they said they read the University Library Newsletter. The corresponding percentages escalate for each group. Forty-one percent of respondents who never read the newsletter, 46% who rarely read the newsletter, 53% who sometimes read the newsletter, and 67% who often read the newsletter collectively responded that they would be more likely to read the newsletter if it was distributed monthly.

Survey respondents were asked to rank specific content types according to their preferences. The largest group of respondents consisted of 302 people. Of those people, 76 ranked staff and human interest stories highest, 92 ranked book and movie trailer content in video format highest, 32 rated video content highlighting library services highest, 49 rated book reviews by library staff highest, and 53 rated video tutorials demonstrating the use of library resources highest. This

large group is particularly important since this is where the most potential exists for increased readership for the University Library Newsletter.

Chapter V: Discussion

In order to determine if the UW-Stout University Library Newsletter meets the needs of students, faculty, and staff an online survey targeting each of those populations was conducted. The research study was performed to determine what existing elements of the newsletter were successfully achieving the goals set for the newsletter by library staff as well as to determine areas of opportunity to improve future newsletter editions.

Limitations

As with any research, there are limitations and procedural weaknesses associated with this study. Asking survey respondents to predict future behavior or state their intentions in the future is not an exact science. Survey respondent's intentions are not always accurately predictive of future behavior.

Response rate is one limitation of survey-based research. The lower the response rate, the more likely there may be non-response bias. If non-respondents would have answered questions differently than respondents, survey results from the sample may not accurately reflect the population. The newsletter reader survey yielded a respectable 33% response rate due, in part, to follow-up reminder emails sent with the intention of minimizing any potential limitations resulting from non-response bias.

Of those surveyed, there were a disproportionate number of female respondents. Fifty-nine percent of survey respondents were female and forty-one percent were male. These numbers appear to be slightly skewed toward the females according to UW-Stout demographic data that shows a more even 50/50 male to female ratio.

In the initial pilot study, a simple random sample of library patrons entering the building was surveyed. In the follow up study a stratified random sample of students, faculty, and staff

were taken. In the first study, there would have been a potential bias since the majority of respondents were students and library patrons. In the follow up study a random sample was derived from three separate populations; students, faculty, and staff.

Conclusions

Looking at the responses to survey questions, an overwhelming majority of respondents have indicated that the UW-Stout University Library Newsletter does not reach its intended audience at an acceptable level. The data indicates that there are barriers involving newsletter visibility, awareness on the part of the intended audience that such a resource is available, and access to the newsletter. Low readership rates present challenges that are related to these barriers. In fact, an analysis of qualitative input provided by respondents indicated that the greatest opportunity for improvement in readership rates may exist by increasing awareness and accessibility of the newsletter.

Respondents do, however, indicate that there are several areas where the newsletter currently meets the needs of those who read it. Input provided indicates that the current content does meet the needs of readership, on the whole. However, even the data concerning reader content preference does deserve closer consideration. Many of those who responded that they are not newsletter readers have indicated that the inclusion of specific content types would increase the likelihood that they would read the newsletter.

Another element of the UW-Stout University Library Newsletter distribution provides opportunity for an increase in readership. Survey respondents indicated that they would be more likely to read the newsletter if it was distributed on a monthly basis. Survey respondents in all categories were more likely to read the newsletter if it was distributed monthly. Further, the more often respondents read the newsletter, they responded that they were even more likely read the

newsletter if it was distributed on a monthly basis. In an effort to further the University Library's mission, it is important to accommodate both current and potential reader's needs to the greatest extent possible.

Recommendations

This research was focused on the intended audience of the UW-Stout University Library Newsletter. Meeting the needs of the students, faculty, and staff as they relate to the newsletter should be given higher priority. There is a need to balance the needs of potential readers while achieving the goals of the University Library. Careful consideration should be given to the data provided by the survey respondents of this study. The rather extensive data from this research deserves further analysis by library staff members. Trends within the data should be given careful consideration. Even trends that do not represent large majorities of readership deserve attention in creating an actionable agenda that takes advantage of even seemingly insignificant opportunities to maximize newsletter readership. Collectively, each action taken that increases readership assists in building upon a foundation that furthers the University of Wisconsin-Stout's Enduring Goals, which include the promotion of excellence in teaching, research, scholarship, and service as well as providing responsive, efficient and cost-effective educational support programs and services. All of this can be accomplished simply by more wisely consuming limited resources that are currently not being utilized to their maximum potential. In order to be in alignment with the University of Wisconsin-Stout's Mission and Enduring Goals, as well as the University Library's Mission, it is important to maximize newsletter readership and assure that information is being disseminated by the most efficient means possible. Ultimately, the ability to fully leverage the newsletter enhances the performance potential of students, faculty and staff.

Summary

The UW-Stout University Library Newsletter survey was administered to a stratified random sample of students, faculty, and staff. The survey was conducted with the approval of the UW-Stout Institutional Review Board (IRB). Survey respondents were notified that their responses were confidential and voluntary and that they could withdraw from the survey at any time without further obligation. The survey was conducted in March of 2013. The purpose of the study was to gain a more comprehensive understanding of the needs of the UW-Stout University Library Newsletter's existing readership as well as those who were not currently newsletter readers.

Upon completion of the survey, a detailed statistical analysis was performed. In addition to covering student, faculty, and staff populations survey questions drilled down further to gain a better understanding of readers who utilize the newsletter to varying degrees, as well as those who stated they do not currently read the newsletter. An overview of trends found within the data was presented in Chapter IV. However, further analysis is warranted to gain a more complete understanding of the data that was gathered in an effort to utilize Data-Driven Decision Making to maximize the utility of the University Library Newsletter by best meeting the differing needs of each segment of the intended audience. Therefore, a comprehensive listing of tables containing descriptive statistics, χ^2 significance tests, and qualitative data are included (see Appendices A, B, & C).

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Appendix A: Descriptive Statistics Tables

Table A1

Have Read UW-Stout University Library Newsletter

| Answer | Responses | Percentage |
|--------|-----------|------------|
| Yes | 91 | 18% |
| No | 407 | 82% |
| Total | 498 | 100% |

Table A2

Reading Frequency of UW-Stout Library Newsletter

| Answer | Responses | Percentage |
|--------------------|-----------|------------|
| Never(1) | 370 | 74.3% |
| Rarely(2) | 86 | 17.3% |
| Sometimes(3) | 36 | 7.2% |
| Often(4) | 6 | 1.2% |
| All of the Time(5) | 0 | 0% |
| Total | 498 | 100% |

Standard Deviation= 0.67 Variance= 0.45 Mean= 1.35

Table A3

Newsletter Reader Preferences Response Count

| More likely to: | SA(1) | A(2) | N(3) | D(4) | S(5) | Total |
|-----------------------------------|-------|------|------|------|------|-------|
| read newsletter than blog. | 63 | 128 | 153 | 91 | 57 | 492 |
| read newsletter w/ video content. | 26 | 112 | 176 | 121 | 55 | 490 |
| use library services mentioned. | 28 | 189 | 205 | 39 | 30 | 491 |
| read as page count increases. | 5 | 26 | 195 | 174 | 89 | 489 |

SA-Strongly Agree A-Agree N- Neither Agree nor Disagree

D-Disagree S-Strongly Disagree

Table A4

Newsletter Reader Preference

| More likely to: | SA | A | N | D | S |
|-----------------------------------|--------|--------|--------|--------|--------|
| read newsletter than blog. | 12.80% | 26.02% | 31.10% | 18.50% | 11.59% |
| read newsletter w/ video content. | 5.31% | 22.86% | 35.92% | 24.69% | 11.22% |
| use library services mentioned. | 5.70% | 38.49% | 41.75% | 7.94% | 6.11% |
| read as page count increases. | 1.02% | 5.32% | 39.88% | 35.58% | 18.20% |

SA-Strongly Agree A-Agree N- Neither Agree nor Disagree

-Disagree S-Strongly Disagree

Table A5

Newsletter Reader Preference Descriptive Statistics

| More likely to: | Mean | Standard Deviation | Variance |
|-----------------------------------|------|-----------------------|----------|
| read newsletter than blog. | 2.90 | 1.19 | 1.41 |
| read newsletter w/ video content. | 3.14 | 1.06 | 1.12 |
| use library services mentioned. | 2.70 | 0.92 | 0.85 |
| read as page count increases. | 3.65 | 0.87 | 0.76 |

Strongly Agree-1 Agree-2 Neither Agree nor Disagree-3 Disagree-4 Strongly Disagree-5

Table A6

Newsletter Content Ranking Counts

| Content | 1 | 2 | 3 | 4 | 5 |
|--------------------------------------|-----|-----|-----|-----|-----|
| Staff Spotlight & Human Interest | 97 | 60 | 73 | 63 | 75 |
| Book/Movie Trailers in Video Format | 114 | 100 | 69 | 51 | 34 |
| Video Content Highlighting Services | 37 | 88 | 114 | 84 | 45 |
| Library Staff Book Reviews | 55 | 65 | 54 | 106 | 88 |
| Video Tutorials for Library Services | 65 | 55 | 58 | 64 | 126 |
| Total | 368 | 368 | 368 | 368 | 368 |

Reader rankings of content 1 through 5: 1= highest preference 5= lowest preference

Table A7

Newsletter Content Rankings

| Content | 1 | 2 | 3 | 4 | 5 |
|--------------------------------------|--------|--------|--------|--------|--------|
| Staff Spotlight & Human Interest | 26.36% | 16.30% | 19.84% | 17.12% | 20.38% |
| Book/Movie Trailers in Video Format | 30.98% | 27.17% | 18.75% | 13.86% | 9.24% |
| Video Content Highlighting Services | 10.05% | 23.91% | 30.98% | 22.83% | 12.23% |
| Library Staff Book Reviews | 14.95% | 17.66% | 14.67% | 28.80% | 23.91% |
| Video Tutorials for Library Services | 17.66% | 14.95% | 15.76% | 17.39% | 34.24% |
| Total | 368 | 368 | 368 | 368 | 368 |

Reader rankings of content 1 through 5: 1= highest preference 5= lowest preference

Table A8

Preference Response Count, Respondents Who Read Newsletter

| More likely to: | SA(1) | A(2) | N(3) | D(4) | S(5) | Total |
|-----------------------------------|-------|------|------|------|------|-------|
| read newsletter than blog. | 18 | 28 | 29 | 13 | 3 | 91 |
| read newsletter w/ video content. | 3 | 20 | 38 | 27 | 3 | 91 |
| use library services mentioned. | 8 | 36 | 40 | 6 | 1 | 91 |
| read as page count increases. | 1 | 9 | 35 | 30 | 16 | 91 |

SA-Strongly Agree A-Agree N- Neither Agree nor Disagree

D-Disagree S-Strongly Disagree

Table A9

Preference, Respondents Who Read Newsletter

| More likely to: | SA | A | N | D | S |
|-----------------------------------|--------|--------|--------|--------|--------|
| read newsletter than blog. | 19.78% | 30.77% | 31.87% | 14.29% | 3.30% |
| read newsletter w/ video content. | 3.30% | 21.98% | 41.76% | 29.67% | 3.30% |
| use library services mentioned. | 8.79% | 39.56% | 43.96% | 6.59% | 1.10% |
| read as page count increases. | 1.10% | 9.89% | 38.46% | 32.97% | 17.58% |

SA-Strongly Agree A-Agree N- Neither Agree nor Disagree

D-Disagree S-Strongly Disagree

Table A10

Preference Descriptive Statistics, Respondents Who Read Newsletter

| More likely to: | Mean | Standard Deviation | Variance |
|-----------------------------------|------|-----------------------|----------|
| read newsletter than blog. | 2.51 | 1.07 | 1.14 |
| read newsletter w/ video content. | 3.08 | 0.88 | 0.78 |
| use library services mentioned. | 2.52 | 0.79 | 0.63 |
| read as page count increases. | 3.56 | 0.93 | 0.87 |

Strongly Agree-1 Agree-2 Neither Agree nor Disagree-3 Disagree-4 Strongly Disagree-5

Table A11

Preference Response Count, Respondents Who Do Not Read Newsletter

| More likely to: | SA(1) | A(2) | N(3) | D(4) | S(5) | Total |
|-----------------------------------|-------|------|------|------|------|-------|
| read newsletter than blog. | 44 | 100 | 124 | 78 | 54 | 400 |
| read newsletter w/ video content. | 23 | 92 | 138 | 93 | 52 | 398 |
| use library services mentioned. | 20 | 152 | 165 | 33 | 29 | 399 |
| read as page count increases. | 4 | 17 | 160 | 143 | 73 | 397 |

SA-Strongly Agree A-Agree N- Neither Agree nor Disagree D-Disagree S-Strongly Disagree

Table A12

Preference, Respondents Who Do Not Read Newsletter

| More likely to: | SA | A | N | D | S |
|-----------------------------------|--------|--------|--------|--------|--------|
| read newsletter than blog. | 11.00% | 25.00% | 31.00% | 19.50% | 13.50% |
| read newsletter w/ video content. | 5.78% | 23.12% | 34.67% | 23.37% | 13.07% |
| use library services mentioned. | 5.01% | 38.10% | 41.35% | 8.27% | 7.27% |
| read as page count increases. | 1.01% | 4.28% | 40.30% | 36.02% | 18.39% |

SA-Strongly Agree A-Agree N- Neither Agree nor Disagree

D-Disagree S-Strongly Disagree

Table A13

Preference Descriptive Statistics, Respondents Who Do Not Read Newsletter

| More likely to: | Mean | Standard Deviation | Variance |
|-----------------------------------|------|-----------------------|----------|
| read newsletter than blog. | 3.00 | 1.20 | 1.43 |
| read newsletter w/ video content. | 3.15 | 1.10 | 1.20 |
| use library services mentioned. | 2.75 | 0.95 | 0.89 |
| read as page count increases. | 3.66 | 0.86 | 0.74 |

Strongly Agree-1 Agree-2 Neither Agree nor Disagree-3 Disagree-4 Strongly Disagree-5

Table A14

Newsletter Content Ranking Counts, Respondents Who Read Newsletter

| Content | 1 | 2 | 3 | 4 | 5 |
|--------------------------------------|----|----|----|----|----|
| Staff Spotlight & Human Interest | 20 | 7 | 13 | 10 | 15 |
| Book/Movie Trailers in Video Format | 22 | 7 | 13 | 9 | 14 |
| Video Content Highlighting Services | 5 | 19 | 20 | 16 | 5 |
| Library Staff Book Reviews | 6 | 16 | 9 | 23 | 11 |
| Video Tutorials for Library Services | 12 | 16 | 10 | 7 | 20 |
| Total | 65 | 65 | 65 | 65 | 65 |

Reader rankings of content 1 through 5: 1= highest preference 5= lowest preference

Table A15

Newsletter Content Rankings, Respondents Who Read Newsletter

| Content | 1 | 2 | 3 | 4 | 5 |
|--------------------------------------|--------|--------|--------|--------|--------|
| Staff Spotlight & Human Interest | 30.77% | 10.77% | 20.00% | 15.38% | 23.08% |
| Book/Movie Trailers in Video Format | 33.85% | 10.77% | 20.00% | 13.85% | 21.54% |
| Video Content Highlighting Services | 7.69% | 29.23% | 30.77% | 24.62% | 7.69% |
| Library Staff Book Reviews | 9.23% | 24.62% | 13.85% | 35.38% | 16.92% |
| Video Tutorials for Library Services | 18.46% | 24.62% | 15.38% | 10.77% | 30.77% |

Reader rankings of content 1 through 5: 1= highest preference 5= lowest preference

Table A16

Newsletter Content Ranking Counts, Respondents Who Do Not Read Newsletter

| Content | 1 | 2 | 3 | 4 | 5 |
|--------------------------------------|-----|-----|-----|-----|-----|
| Staff Spotlight & Human Interest | 76 | 53 | 60 | 53 | 60 |
| Book/Movie Trailers in Video Format | 92 | 92 | 56 | 42 | 20 |
| Video Content Highlighting Services | 32 | 69 | 93 | 68 | 40 |
| Library Staff Book Reviews | 49 | 49 | 45 | 82 | 77 |
| Video Tutorials for Library Services | 53 | 39 | 48 | 57 | 105 |
| Total | 302 | 302 | 302 | 302 | 302 |

Reader rankings of content 1 through 5: 1= highest preference 5= lowest preference

Table A17

Newsletter Content Rankings, Respondents Who Do Not Read Newsletter

| Content | 1 | 2 | 3 | 4 | 5 |
|--------------------------------------|--------|--------|--------|--------|--------|
| Staff Spotlight & Human Interest | 25.17% | 17.55% | 19.87% | 17.55% | 19.87% |
| Book/Movie Trailers in Video Format | 30.46% | 30.46% | 18.54% | 13.91% | 6.62% |
| Video Content Highlighting Services | 10.60% | 22.85% | 30.79% | 22.52% | 13.25% |
| Library Staff Book Reviews | 16.23% | 16.23% | 14.90% | 27.15% | 25.50% |
| Video Tutorials for Library Services | 17.55% | 12.91% | 15.89% | 18.87% | 34.77% |

Reader rankings of content 1 through 5: 1= highest preference 5= lowest preference

Table A18

Preference Response Count, Respondents Who Never Read Newsletter

| More likely to: | SA(1) | A(2) | N(3) | D(4) | S(5) | Total |
|-----------------------------------|-------|------|------|------|------|-------|
| read newsletter than blog. | 41 | 88 | 109 | 74 | 53 | 365 |
| read newsletter w/ video content. | 23 | 83 | 120 | 87 | 50 | 363 |
| use library services mentioned. | 18 | 137 | 148 | 32 | 29 | 364 |
| read as page count increases. | 4 | 15 | 142 | 133 | 69 | 363 |

SA-Strongly Agree A-Agree N- Neither Agree nor Disagree

D-Disagree S-Strongly Disagree

Table A19

Preference, Respondents Who Never Read Newsletter

| More likely to: | SA | A | N | D | S |
|-----------------------------------|--------|--------|--------|--------|--------|
| read newsletter than blog. | 11.23% | 24.11% | 29.86% | 20.27% | 14.52% |
| read newsletter w/ video content. | 6.34% | 22.87% | 33.06% | 23.97% | 13.77% |
| use library services mentioned. | 4.95% | 37.64% | 40.66% | 8.79% | 7.97% |
| read as page count increases. | 1.10% | 4.13% | 39.12% | 36.64% | 19.01% |

SA-Strongly Agree A-Agree N- Neither Agree nor Disagree

D-Disagree S-Strongly Disagree

Table A20

Preference Descriptive Statistics, Respondents Who Never Read Newsletter

| More likely to: | Mean | Standard Deviation | Variance |
|-----------------------------------|------|-----------------------|----------|
| read newsletter than blog. | 3.03 | 1.22 | 1.48 |
| read newsletter w/ video content. | 3.16 | 1.12 | 1.25 |
| use library services mentioned. | 2.77 | 0.97 | 0.93 |
| read as page count increases. | 3.68 | 0.86 | 0.75 |

Strongly Agree-1 Agree-2 Neither Agree nor Disagree-3
Disagree-4 Strongly Disagree-5

Table A21

Preference Response Count, Respondents Who Never Read Newsletter

| More likely to: | SA(1) | A(2) | N(3) | D(4) | S(5) | Total |
|-----------------------------------|-------|------|------|------|------|-------|
| read newsletter than blog. | 41 | 88 | 109 | 74 | 53 | 365 |
| read newsletter w/ video content. | 23 | 83 | 120 | 87 | 50 | 363 |
| use library services mentioned. | 18 | 137 | 148 | 32 | 29 | 364 |
| read as page count increases. | 4 | 15 | 142 | 133 | 69 | 363 |

SA-Strongly Agree A-Agree N- Neither Agree nor Disagree

D-Disagree S-Strongly Disagree

Table A22

Preference, Respondents Who Never Read Newsletter

| More likely to: | SA | A | N | D | S |
|-----------------------------------|--------|--------|--------|--------|--------|
| read newsletter than blog. | 11.23% | 24.11% | 29.86% | 20.27% | 14.52% |
| read newsletter w/ video content. | 6.34% | 22.87% | 33.06% | 23.97% | 13.77% |
| use library services mentioned. | 4.95% | 37.64% | 40.66% | 8.79% | 7.97% |
| read as page count increases. | 1.10% | 4.13% | 39.12% | 36.64% | 19.01% |

SA-Strongly Agree A-Agree N- Neither Agree nor Disagree

D-Disagree S-Strongly Disagree

Table A23

Preference Descriptive Statistics, Respondents Who Never Read Newsletter

| More likely to: | Mean | Standard Deviation | Variance |
|-----------------------------------|------|-----------------------|----------|
| read newsletter than blog. | 3.03 | 1.22 | 1.48 |
| read newsletter w/ video content. | 3.16 | 1.12 | 1.25 |
| use library services mentioned. | 2.77 | 0.97 | 0.93 |
| read as page count increases. | 3.68 | 0.86 | 0.75 |

Strongly Agree-1 Agree-2 Neither Agree nor Disagree-3 Disagree-4 Strongly Disagree-5

Table A24

Preference Response Count, Respondents Who Rarely Read Newsletter

| More likely to: | SA(1) | A(2) | N(3) | D(4) | S(5) | Total |
|-----------------------------------|-------|------|------|------|------|-------|
| read newsletter than blog. | 11 | 24 | 34 | 11 | 4 | 84 |
| read newsletter w/ video content. | 1 | 19 | 37 | 22 | 5 | 84 |
| use library services mentioned. | 5 | 37 | 38 | 3 | 1 | 84 |
| read as page count increases. | 1 | 3 | 37 | 29 | 13 | 83 |

SA-Strongly Agree A-Agree N- Neither Agree nor Disagree

D-Disagree S-Strongly Disagree

Table A25

Preference, Respondents Who Rarely Read Newsletter

| More likely to: | SA | A | N | D | S |
|-----------------------------------|--------|--------|--------|--------|--------|
| read newsletter than blog. | 13.10% | 28.57% | 40.48% | 13.10% | 4.76% |
| read newsletter w/ video content. | 1.19% | 22.62% | 44.05% | 26.19% | 5.95% |
| use library services mentioned. | 5.95% | 44.05% | 45.24% | 3.57% | 1.19% |
| read as page count increases. | 1.20% | 3.61% | 44.58% | 34.94% | 15.66% |

SA-Strongly Agree A-Agree N- Neither Agree nor Disagree

D-Disagree S-Strongly Disagree

Table A26

Preference Descriptive Statistics, Respondents Who Rarely Read Newsletter

| More likely to: | Mean | Standard Deviation | Variance |
|-----------------------------------|------|-----------------------|----------|
| read newsletter than blog. | 2.68 | 1.02 | 1.04 |
| read newsletter w/ video content. | 3.13 | 0.88 | 0.77 |
| use library services mentioned. | 2.50 | 0.72 | 0.52 |
| read as page count increases. | 3.60 | 0.84 | 0.71 |

Strongly Agree-1 Agree-2 Neither Agree nor Disagree-3 Disagree-4 Strongly Disagree-5

Table A27

Preference Response Count, Respondents Who Sometimes Read Newsletter

| More likely to: | SA(1) | A(2) | N(3) | D(4) | S(5) | Total |
|-----------------------------------|-------|------|------|------|------|-------|
| read newsletter than blog. | 9 | 14 | 9 | 4 | 0 | 36 |
| read newsletter w/ video content. | 2 | 9 | 14 | 11 | 0 | 36 |
| use library services mentioned. | 4 | 13 | 16 | 3 | 0 | 36 |
| read as page count increases. | 0 | 8 | 16 | 8 | 4 | 36 |

SA-Strongly Agree A-Agree N- Neither Agree nor Disagree

D-Disagree S-Strongly Disagree

Table A28

Preference, Respondents Who Sometimes Read Newsletter

| More likely to: | SA | A | N | D | S |
|-----------------------------------|--------|--------|--------|--------|--------|
| read newsletter than blog. | 25.00% | 38.89% | 25.00% | 11.11% | 0.00% |
| read newsletter w/ video content. | 5.56% | 25.00% | 38.89% | 30.56% | 0.00% |
| use library services mentioned. | 11.11% | 36.11% | 44.44% | 8.33% | 0.00% |
| read as page count increases. | 0.00% | 22.22% | 44.44% | 22.22% | 11.11% |

SA-Strongly Agree A-Agree N- Neither Agree nor Disagree

D-Disagree S-Strongly Disagree

Table A29

Preference Descriptive Statistics, Respondents Who Sometimes Read Newsletter

| More likely to: | Mean | Standard Deviation | Variance |
|-----------------------------------|------|-----------------------|----------|
| read newsletter than blog. | 2.22 | 0.96 | 0.92 |
| read newsletter w/ video content. | 2.94 | 0.89 | 0.80 |
| use library services mentioned. | 2.50 | 0.81 | 0.66 |
| read as page count increases. | 3.22 | 0.93 | 0.86 |

Strongly Agree-1 Agree-2 Neither Agree nor Disagree-3 Disagree-4 Strongly Disagree-5

Table A30

Preference Response Count, Respondents Who Often Read Newsletter

| More likely to: | SA(1) | A(2) | N(3) | D(4) | S(5) | Total |
|-----------------------------------|-------|------|------|------|------|-------|
| read newsletter than blog. | 1 | 2 | 1 | 2 | 0 | 6 |
| read newsletter w/ video content. | 0 | 1 | 4 | 1 | 0 | 6 |
| use library services mentioned. | 1 | 1 | 3 | 1 | 0 | 6 |
| read as page count increases. | 0 | 0 | 0 | 3 | 3 | 6 |

SA-Strongly Agree A-Agree N- Neither Agree nor Disagree

D-Disagree S-Strongly Disagree

Table A31

Preference, Respondents Who Often Read Newsletter

| More likely to: | SA | A | N | D | S |
|-----------------------------------|--------|--------|--------|--------|--------|
| read newsletter than blog. | 16.67% | 33.33% | 16.67% | 33.33% | 0.00% |
| read newsletter w/ video content. | 0.00% | 16.67% | 66.67% | 16.67% | 0.00% |
| use library services mentioned. | 16.67% | 16.67% | 50.00% | 16.67% | 0.00% |
| read as page count increases. | 0.00% | 0.00% | 0.00% | 50.00% | 50.00% |

SA-Strongly Agree A-Agree N- Neither Agree nor Disagree

D-Disagree S-Strongly Disagree

Table A32

Preference Descriptive Statistics, Respondents Who Often Read Newsletter

| More likely to: | Mean | Standard Deviation | Variance |
|-----------------------------------|------|-----------------------|----------|
| read newsletter than blog. | 2.67 | 1.21 | 1.47 |
| read newsletter w/ video content. | 3.00 | 0.63 | 0.40 |
| use library services mentioned. | 2.67 | 1.03 | 1.07 |
| read as page count increases. | 4.50 | 0.55 | 0.30 |

Strongly Agree-1 Agree-2 Neither Agree nor Disagree-3 Disagree-4 Strongly Disagree-5

Table A33

Newsletter Content Ranking Counts, Respondents Who Never Read Newsletter

| Content | 1 | 2 | 3 | 4 | 5 |
|--------------------------------------|-----|-----|-----|-----|-----|
| Staff Spotlight & Human Interest | 72 | 46 | 56 | 51 | 54 |
| Book/Movie Trailers in Video Format | 85 | 88 | 48 | 39 | 19 |
| Video Content Highlighting Services | 31 | 65 | 87 | 60 | 36 |
| Library Staff Book Reviews | 44 | 45 | 44 | 78 | 68 |
| Video Tutorials for Library Services | 47 | 35 | 44 | 51 | 102 |
| Total | 279 | 279 | 279 | 279 | 279 |

Reader rankings of content 1 through 5: 1= highest preference 5= lowest preference

Table A34

Newsletter Content Rankings, Respondents Who Never Read Newsletter

| Content | 1 | 2 | 3 | 4 | 5 |
|--------------------------------------|--------|--------|--------|--------|--------|
| Staff Spotlight & Human Interest | 25.81% | 16.49% | 20.07% | 18.28% | 19.35% |
| Book/Movie Trailers in Video Format | 30.47% | 31.54% | 17.20% | 13.98% | 6.81% |
| Video Content Highlighting Services | 11.11% | 23.30% | 31.18% | 21.51% | 12.90% |
| Library Staff Book Reviews | 15.77% | 16.13% | 15.77% | 27.96% | 24.37% |
| Video Tutorials for Library Services | 16.85% | 12.54% | 15.77% | 18.28% | 36.56% |

Reader rankings of content 1 through 5: 1= highest preference 5= lowest preference

Table A35

Newsletter Content Ranking Counts, Respondents Who Rarely Read Newsletter

| Content | 1 | 2 | 3 | 4 | 5 |
|--------------------------------------|----|----|----|----|----|
| Staff Spotlight & Human Interest | 11 | 10 | 14 | 9 | 15 |
| Book/Movie Trailers in Video Format | 22 | 7 | 11 | 10 | 9 |
| Video Content Highlighting Services | 2 | 15 | 18 | 16 | 8 |
| Library Staff Book Reviews | 10 | 14 | 6 | 16 | 13 |
| Video Tutorials for Library Services | 14 | 13 | 10 | 8 | 14 |
| Total | 59 | 59 | 59 | 59 | 59 |

Reader rankings of content 1 through 5: 1= highest preference 5= lowest preference

Table A36

Newsletter Content Rankings, Respondents Who Rarely Read Newsletter

| Content | 1 | 2 | 3 | 4 | 5 |
|--------------------------------------|--------|--------|--------|--------|--------|
| Staff Spotlight & Human Interest | 18.64% | 16.95% | 23.73% | 15.25% | 25.42% |
| Book/Movie Trailers in Video Format | 37.29% | 11.86% | 18.64% | 16.95% | 15.25% |
| Video Content Highlighting Services | 3.39% | 25.42% | 30.51% | 27.12% | 13.56% |
| Library Staff Book Reviews | 16.95% | 23.73% | 10.17% | 27.12% | 22.03% |
| Video Tutorials for Library Services | 23.73% | 22.03% | 16.95% | 13.56% | 23.73% |

Reader rankings of content 1 through 5: 1= highest preference 5= lowest preference

Table A37

Newsletter Content Ranking Counts, Respondents Who Sometimes Read Newsletter

| Content | 1 | 2 | 3 | 4 | 5 |
|--------------------------------------|----|----|----|----|----|
| Staff Spotlight & Human Interest | 11 | 4 | 1 | 3 | 5 |
| Book/Movie Trailers in Video Format | 6 | 4 | 8 | 2 | 4 |
| Video Content Highlighting Services | 3 | 7 | 7 | 7 | 0 |
| Library Staff Book Reviews | 1 | 2 | 4 | 10 | 7 |
| Video Tutorials for Library Services | 3 | 7 | 4 | 2 | 8 |
| Total | 24 | 24 | 24 | 24 | 24 |

Reader rankings of content 1 through 5: 1= highest preference 5= lowest preference

Table A38

Newsletter Content Rankings, Respondents Who Sometimes Read Newsletter

| Content | 1 | 2 | 3 | 4 | 5 |
|--------------------------------------|--------|--------|--------|--------|--------|
| Staff Spotlight & Human Interest | 45.83% | 16.67% | 4.17% | 12.50% | 20.83% |
| Book/Movie Trailers in Video Format | 25.00% | 16.67% | 33.33% | 8.33% | 16.67% |
| Video Content Highlighting Services | 12.50% | 29.17% | 29.17% | 29.17% | 0.00% |
| Library Staff Book Reviews | 4.17% | 8.33% | 16.67% | 41.67% | 29.17% |
| Video Tutorials for Library Services | 12.50% | 29.17% | 16.67% | 8.33% | 33.33% |

Reader rankings of content 1 through 5: 1= highest preference 5= lowest preference

Table A39

Newsletter Content Ranking Counts, Respondents Who Often Read Newsletter

| Content | 1 | 2 | 3 | 4 | 5 |
|--------------------------------------|---|---|---|---|---|
| Staff Spotlight & Human Interest | 3 | 0 | 2 | 0 | 1 |
| Book/Movie Trailers in Video Format | 1 | 1 | 2 | 0 | 2 |
| Video Content Highlighting Services | 1 | 1 | 2 | 1 | 1 |
| Library Staff Book Reviews | 0 | 4 | 0 | 2 | 0 |
| Video Tutorials for Library Services | 1 | 0 | 0 | 3 | 2 |
| Total | 6 | 6 | 6 | 6 | 6 |

Reader rankings of content 1 through 5: 1= highest preference 5= lowest preference

Table A40

Newsletter Content Rankings, Respondents Who Often Read Newsletter

| Content | 1 | 2 | 3 | 4 | 5 |
|--------------------------------------|--------|--------|--------|--------|--------|
| Staff Spotlight & Human Interest | 50.00% | 0.00% | 33.33% | 0.00% | 16.67% |
| Book/Movie Trailers in Video Format | 16.67% | 16.67% | 33.33% | 0.00% | 33.33% |
| Video Content Highlighting Services | 16.67% | 16.67% | 33.33% | 16.67% | 16.67% |
| Library Staff Book Reviews | 0.00% | 66.67% | 0.00% | 33.33% | 0.00% |
| Video Tutorials for Library Services | 16.67% | 0.00% | 0.00% | 50.00% | 33.33% |

Reader rankings of content 1 through 5: 1= highest preference 5= lowest preference

Table A41

More Likely to Read Newsletter if it Contains

| Number of Pages | Response | Percentage |
|-----------------|----------|------------|
| 1-3 | 297 | 61% |
| 3-6 | 122 | 25% |
| 6-9 | 51 | 10% |
| 9-12 | 18 | 4% |
| Total | 488 | 100% |

Table A42

More Likely to Read Newsletter Containing

| Number of Pages | Response | Percentage | Currently Read Newsletter |
|-----------------|----------|------------|---------------------------------|
| 1-3 | 41 | 45% | Yes |
| 3-6 | 30 | 33% | Yes |
| 6-9 | 14 | 15% | Yes |
| 9-12 | 6 | 7% | Yes |
| Total | 91 | 100% | |

Table A43

More Likely to Read Newsletter Containing

| Number of Pages | Response | Percentage | Currently Read Newsletter |
|-----------------|----------|------------|---------------------------------|
| 1-3 | 255 | 64% | No |
| 3-6 | 92 | 23% | No |
| 6-9 | 37 | 9% | No |
| 9-12 | 12 | 3% | No |
| Total | 396 | 100% | |

Table A44

More Likely to Read Newsletter Containing

| Number of Pages | Response | Percentage | Currently Read Newsletter |
|-----------------|----------|------------|---------------------------------|
| 1-3 | 234 | 65% | Never |
| 3-6 | 78 | 22% | Never |
| 6-9 | 35 | 10% | Never |
| 9-12 | 13 | 4% | Never |
| Total | 360 | 100% | |

Table A45

More Likely to Read Newsletter Containing

| Number of Pages | Response | Percentage | Currently Read Newsletter |
|-----------------|----------|------------|---------------------------------|
| 1-3 | 44 | 52% | Rarely |
| 3-6 | 28 | 33% | Rarely |
| 6-9 | 10 | 12% | Rarely |
| 9-12 | 3 | 4% | Rarely |
| Total | 85 | 100% | |

Table A46

More Likely to Read Newsletter Containing

| Number of Pages | Response | Percentage | Currently Read Newsletter |
|-----------------|----------|------------|---------------------------------|
| 1-3 | 14 | 39% | Sometimes |
| 3-6 | 15 | 42% | Sometimes |
| 6-9 | 5 | 14% | Sometimes |
| 9-12 | 2 | 6% | Sometimes |
| Total | 36 | 100% | |

Table A47

More Likely to Read Newsletter Containing

| Number of Pages | Response | Percentage | Currently Read Newsletter |
|-----------------|----------|------------|---------------------------------|
| 1-3 | 5 | 83% | Often |
| 3-6 | 0 | 0% | Often |
| 6-9 | 1 | 17% | Often |
| 9-12 | 0 | 0% | Often |
| Total | 6 | 100% | |

Table A48

More Likely to Read the Newsletter if it is Distributed

| Answer | Response | Percentage |
|--------------------------------------|----------|------------|
| More Often and Contains Less Content | 162 | 34% |
| More Often and Contains More Content | 107 | 23% |
| Less Often and Contains More Content | 94 | 20% |
| Less Often and Contains Less Content | 107 | 23% |
| Total | 470 | 100% |

Table A49

More Likely to Read the Newsletter if it is Distributed

| Answer | Response | Percentage |
|--------------------|----------|------------|
| Once Per Semester | 136 | 28% |
| Twice Per Semester | 143 | 29% |
| Monthly | 211 | 43% |
| Total | 490 | 100% |

Table A50

More Likely to Read the Newsletter if it is Distributed

| Answer | Response | Percentage | Currently Read Newsletter |
|--------------------------------------|----------|------------|---------------------------------|
| More Often and Contains Less Content | 35 | 39% | Yes |
| More Often and Contains More Content | 23 | 26% | Yes |
| Less Often and Contains More Content | 21 | 23% | Yes |
| Less Often and Contains Less Content | 11 | 12% | Yes |
| Total | 90 | 100% | |

Table A51

More Likely to Read the Newsletter if it is Distributed

| Answer | Response | Percentage | Currently Read Newsletter |
|--------------------------------------|----------|------------|---------------------------------|
| More Often and Contains Less Content | 126 | 33% | No |
| More Often and Contains More Content | 84 | 22% | No |
| Less Often and Contains More Content | 73 | 19% | No |
| Less Often and Contains Less Content | 96 | 25% | No |
| Total | 379 | 100% | |

Table A52

More Likely to Read the Newsletter if it is Distributed

| Answer | Response | Percentage | Currently Read Newsletter |
|--------------------|----------|------------|---------------------------------|
| Once Per Semester | 20 | 22% | Yes |
| Twice Per Semester | 25 | 27% | Yes |
| Monthly | 46 | 51% | Yes |
| Total | 91 | 100% | |

Table A53

More Likely to Read the Newsletter if it is Distributed

| Answer | Response | Percentage | Currently Read Newsletter |
|--------------------|----------|------------|---------------------------------|
| Once Per Semester | 116 | 29% | No |
| Twice Per Semester | 118 | 30% | No |
| Monthly | 164 | 41% | No |
| Total | 398 | 100% | |

Table A54

More Likely to Read the Newsletter if it is Distributed

| Answer | Response | Percentage | Currently Read Newsletter |
|--------------------------------------|----------|------------|---------------------------------|
| More Often and Contains Less Content | 120 | 35% | Never |
| More Often and Contains More Content | 70 | 20% | Never |
| Less Often and Contains More Content | 62 | 18% | Never |
| Less Often and Contains Less Content | 94 | 27% | Never |
| Total | 346 | 100% | |

Table A55

More Likely to Read the Newsletter if it is Distributed

| Answer | Response | Percentage | Currently Read Newsletter |
|--------------------------------------|----------|------------|---------------------------------|
| More Often and Contains Less Content | 26 | 32% | Rarely |
| More Often and Contains More Content | 26 | 32% | Rarely |
| Less Often and Contains More Content | 18 | 22% | Rarely |
| Less Often and Contains Less Content | 11 | 14% | Rarely |
| Total | 81 | 100% | |

Table A56

More Likely to Read the Newsletter if it is Distributed

| Answer | Response | Percentage | Currently Read Newsletter |
|--------------------------------------|----------|------------|---------------------------------|
| More Often and Contains Less Content | 12 | 33% | Sometimes |
| More Often and Contains More Content | 11 | 31% | Sometimes |
| Less Often and Contains More Content | 12 | 33% | Sometimes |
| Less Often and Contains Less Content | 1 | 3% | Sometimes |
| Total | 36 | 100% | |

Table A57

More Likely to Read the Newsletter if it is Distributed

| Answer | Response | Percentage | Currently Read Newsletter |
|--------------------------------------|----------|------------|---------------------------------|
| More Often and Contains Less Content | 4 | 67% | Often |
| More Often and Contains More Content | 0 | 0% | Often |
| Less Often and Contains More Content | 1 | 17% | Often |
| Less Often and Contains Less Content | 1 | 17% | Often |
| Total | 6 | 100% | |

Table A58

More Likely to Read the Newsletter if it is Distributed

| Answer | Response | Percentage | Currently Read Newsletter |
|--------------------|----------|------------|---------------------------------|
| Once Per Semester | 106 | 29% | Never |
| Twice Per Semester | 108 | 30% | Never |
| Monthly | 148 | 41% | Never |
| Total | 362 | 100% | |

Table A59

More Likely to Read the Newsletter if it is Distributed

| Answer | Response | Percentage | Currently Read Newsletter |
|--------------------|----------|------------|---------------------------------|
| Once Per Semester | 22 | 26% | Rarely |
| Twice Per Semester | 24 | 28% | Rarely |
| Monthly | 39 | 46% | Rarely |
| Total | 85 | 100% | |

Table A60

More Likely to Read the Newsletter if it is Distributed

| Answer | Response | Percentage | Currently Read Newsletter |
|--------------------|----------|------------|---------------------------------|
| Once Per Semester | 7 | 19% | Sometimes |
| Twice Per Semester | 10 | 28% | Sometimes |
| Monthly | 19 | 53% | Sometimes |
| Total | 36 | 100% | |

Table A61

More Likely to Read the Newsletter if it is Distributed

| Answer | Response | Percentage | Currently Read Newsletter |
|--------------------|----------|------------|---------------------------------|
| Once Per Semester | 1 | 17% | Often |
| Twice Per Semester | 1 | 17% | Often |
| Monthly | 4 | 67% | Often |
| Total | 6 | 100% | |

Appendix B: Pearson's χ^2 Significance Tests

Table B1

Library Newsletter Reading Frequency

| Answer | Students | Faculty | Staff |
|-------------------|----------|----------|----------|
| Never | 0.76738 | 0.515152 | 0.727273 |
| Rarely | 0.173797 | 0.242424 | 0.127273 |
| Sometimes | 0.048128 | 0.242424 | 0.109091 |
| All of the time | 0.010695 | 0 | 0.036364 |
| Proportion Totals | 1 | 1 | 1 |

| | |
|----------------------------|----------|
| χ^2 significance test | 25.05155 |
| df | 8 |
| P-value | 0.001524 |

P-value < 0.05 indicates association.

An association implies separate tendencies for each group likely exists.

Table B2

More Likely to Read if Distributed

| Answer | Students | Faculty | Staff |
|--------------------------------------|----------|----------|----------|
| More Often and Contains Less Content | 0.76738 | 0.515152 | 0.727273 |
| More Often and Contains More Content | 0.173797 | 0.242424 | 0.127273 |
| Less Often and Contains More Content | 0.048128 | 0.242424 | 0.109091 |
| Less Often and Contains Less Content | 0.010695 | 0 | 0.036364 |
| Proportion Totals | 1 | 1 | 1 |

| | |
|-----------------------|--------------------|
| χ^2 significance | 15.167805896917 |
| df | 8 |
| P-value | 0.0559635435764444 |

P-value > 0.05 indicates a lack of association.

Lack of an association implies a tendency toward agreement among students, faculty, and staff.

Table B3

More Likely to Read Newsletter than Blog

| Answer | Students | Faculty | Staff |
|----------------------------|----------|----------|----------|
| Strongly Agree | 0.091644 | 0.242424 | 0.264151 |
| Agree | 0.247978 | 0.30303 | 0.433962 |
| Neither Agree nor Disagree | 0.331536 | 0.272727 | 0.113208 |
| Disagree | 0.202156 | 0.121212 | 0.169811 |
| Strongly Disagree | 0.126685 | 0.060606 | 0.018868 |
| Proportion Totals | 1 | 1 | 1 |

| | |
|----------------------------|----------|
| χ^2 significance test | 35.72696 |
| df | 8 |
| P-value | 1.97E-05 |

P-value < 0.05 indicates association.

An association implies separate tendencies for each group likely exists.

Table B4

More Likely to Read Newsletter with Video Content

| Answer | Students | Faculty | Staff |
|----------------------------|----------|---------|----------|
| Strongly Agree | 0.062162 | 0.03125 | 0.037736 |
| Agree | 0.248649 | 0.1875 | 0.169811 |
| Neither Agree nor Disagree | 0.364865 | 0.28125 | 0.301887 |
| Disagree | 0.218919 | 0.3125 | 0.433962 |
| Strongly Disagree | 0.105405 | 0.1875 | 0.056604 |
| Proportion Totals | 1 | 1 | 1 |

| | |
|----------------------------|----------|
| χ^2 significance test | 15.77823 |
| df | 8 |
| P-value | 0.045667 |

P-value < 0.05 indicates association.

An association implies separate tendencies for each group likely exists.

Table B5

More Likely to Use Library Services Mentioned in Newsletter

| Answer | Students | Faculty | Staff |
|----------------------------|----------|---------|----------|
| Strongly Agree | 0.051213 | 0.21875 | 0.018868 |
| Agree | 0.382749 | 0.3125 | 0.509434 |
| Neither Agree nor Disagree | 0.423181 | 0.34375 | 0.339623 |
| Disagree | 0.078167 | 0.0625 | 0.132075 |
| Strongly Disagree | 0.06469 | 0.0625 | 0 |
| Proportion Totals | 1 | 1 | 1 |

| | |
|----------------------------|----------|
| χ^2 significance test | 24.43046 |
| df | 8 |
| P-value | 0.00194 |

P-value < 0.05 indicates association.

An association implies separate tendencies for each group likely exists.

Table B6

More Likely to Read Newsletter as Page Count Increases

| Answer | Students | Faculty | Staff |
|----------------------------|----------|---------|----------|
| Strongly Agree | 0.010811 | 0.03125 | 0 |
| Agree | 0.054054 | 0.03125 | 0.057692 |
| Neither Agree nor Disagree | 0.391892 | 0.46875 | 0.269231 |
| Disagree | 0.362162 | 0.375 | 0.461538 |
| Strongly Disagree | 0.181081 | 0.09375 | 0.211538 |
| Proportion Totals | 1 | 1 | 1 |

| | |
|----------------------------|----------|
| χ^2 significance test | 7.348609 |
| df | 8 |
| P-value | 0.499529 |

P-value > 0.05 indicates a lack of association.

Lack of an association implies a tendency toward agreement among students, faculty, and staff.

Table B7

More Likely to Read Newsletter Containing

| Pages | Students | Faculty | Staff |
|-------------------|----------|---------|----------|
| 1-3 | 0.586957 | 0.8125 | 0.660377 |
| 3-6 | 0.258152 | 0.125 | 0.283019 |
| 6-9 | 0.111413 | 0.0625 | 0.037736 |
| 9-12 | 0.043478 | 0 | 0.018868 |
| Proportion Totals | 1 | 1 | 1 |

| | |
|----------------------------|----------|
| χ^2 significance test | 10.03438 |
| df | 8 |
| P-value | 0.262621 |

P-value > 0.05 indicates a lack of association.

Lack of an association implies a tendency toward agreement among students, faculty, and staff.

Table B8

More Likely to Read Newsletter Distributed

| Answer | Students | Faculty | Staff |
|--------------------|----------|----------|----------|
| Once Per Semester | 0.249322 | 0.424242 | 0.320755 |
| Twice per Semester | 0.306233 | 0.30303 | 0.245283 |
| Monthly | 0.444444 | 0.272727 | 0.433962 |
| Proportion Totals | 1 | 1 | 1 |

| | |
|----------------------------|----------|
| χ^2 significance test | 6.645595 |
| df | 8 |
| P-value | 0.575307 |

P-value > 0.05 indicates a lack of association.

Lack of an association implies a tendency toward agreement among students, faculty, and staff.

Table B9

Staff Spotlight and Human Interest Content

| Ranking (1-5) | Students | Faculty | Staff |
|-------------------|----------|----------|----------|
| 1 | 0.226351 | 0.185185 | 0.555556 |
| 2 | 0.179054 | 0.148148 | 0.066667 |
| 3 | 0.222973 | 0.148148 | 0.066667 |
| 4 | 0.175676 | 0.111111 | 0.177778 |
| 5 | 0.195946 | 0.407407 | 0.133333 |
| Proportion Totals | 1 | 1 | 1 |

Where Lower Ranking is Better

| | |
|----------------------------|----------|
| χ^2 significance test | 32.28057 |
| df | 8 |
| P-value | 8.3E-05 |

*P-value < 0.05 indicates association.**An association implies separate tendencies for each group likely exists.*

Table B10

Book and Movie Trailers in Video Format

| Ranking (1-5) | Students | Faculty | Staff |
|-------------------|----------|----------|----------|
| 1 | 0.358108 | 0.148148 | 0.088889 |
| 2 | 0.277027 | 0.185185 | 0.288889 |
| 3 | 0.165541 | 0.259259 | 0.288889 |
| 4 | 0.125 | 0.259259 | 0.155556 |
| 5 | 0.074324 | 0.148148 | 0.177778 |
| Proportion Totals | 1 | 1 | 1 |

Where Lower Ranking is Better

| | |
|----------------------------|----------|
| χ^2 significance test | 25.22002 |
| df | 8 |
| P-value | 0.001427 |

*P-value < 0.05 indicates association.**An association implies separate tendencies for each group likely exists.*

Table B11

Video Content Highlighting Library Services

| Ranking (1-5) | Students | Faculty | Staff |
|-------------------|----------|---------|----------|
| 1 | 0.087838 | 0.14814 | 0.155556 |
| 2 | 0.243243 | 0.25925 | 0.2 |
| 3 | 0.293919 | 0.33333 | 0.4 |
| 4 | 0.233108 | 0.18518 | 0.222222 |
| 5 | 0.141892 | 0.07407 | 0.022222 |
| Proportion Totals | 1.0 | 1.0 | 1.0 |

| | |
|----------------------------|----------|
| χ^2 significance test | 9.64979 |
| df | 8 |
| P-value | 0.290471 |

P-value > 0.05 indicates a lack of association.

Lack of an association implies a tendency toward agreement among students, faculty, and staff.

Table B12

Book Reviews Written by Library Staff

| Ranking (1-5) | Students | Faculty | Staff |
|-------------------|----------|----------|----------|
| 1 | 0.155405 | 0.185185 | 0.088889 |
| 2 | 0.168919 | 0.185185 | 0.222222 |
| 3 | 0.152027 | 0.148148 | 0.111111 |
| 4 | 0.273649 | 0.37037 | 0.333333 |
| 5 | 0.25 | 0.111111 | 0.244444 |
| Proportion Totals | 1 | 1 | 1 |

| | |
|----------------------------|----------|
| χ^2 significance test | 5.6624 |
| df | 8 |
| P-value | 0.684989 |

P-value > 0.05 indicates a lack of association.

Lack of an association implies a tendency toward agreement among students, faculty, and staff.

Table B13

Video Tutorials Demonstrating Use of Library Resources

| Ranking (1-5) | Students | Faculty | Staff |
|-------------------|----------|----------|----------|
| 1 | 0.172297 | 0.333333 | 0.111111 |
| 2 | 0.131757 | 0.222222 | 0.222222 |
| 3 | 0.165541 | 0.111111 | 0.133333 |
| 4 | 0.192568 | 0.074074 | 0.111111 |
| 5 | 0.337838 | 0.259259 | 0.422222 |
| Proportion totals | 1 | 1 | 1 |

| | |
|----------------------------|----------|
| χ^2 significance test | 13.26759 |
| df | 8 |
| P-value | 0.102968 |

P-value > 0.05 indicates a lack of association.

Lack of an association implies a tendency toward agreement among students, faculty, and staff.

Table B14

Most Closely Represents Use of Campus or Online Library Resources

| Answer | Students | Faculty | Staff |
|-----------------------------|----------|----------|----------|
| Daily | 0.048128 | 0.060606 | 0.054545 |
| Weekly | 0.235294 | 0.30303 | 0.090909 |
| Monthly | 0.286096 | 0.393939 | 0.218182 |
| At Least Once Per Semester | 0.299465 | 0.181818 | 0.163636 |
| Less than Once Per Semester | 0.131016 | 0.060606 | 0.472727 |
| Proportion totals | 1 | 1 | 1 |

Where Lower Ranking is Better

| | |
|----------------------------|----------|
| χ^2 significance test | 48.18967 |
| df | 8 |
| P-value | 9.09E-08 |

P-value < 0.05 indicates association.

An association implies separate tendencies for each group likely exists.

Appendix C: Qualitative Data

Qualitative Data: Twelve respondents who said they read the UW-Stout University Library Newsletter.

Question: What would you like to see added to or eliminated from the University Library Newsletter?

- 1) better notification that the newsletter is available for download
- 2) You may want to consider with this survey that what the Library Newsletter is is quite unclear. Are you talking about the piece usually posted in the bathrooms? Or, something else entirely?
- 3) I would like to be able to directly access professionals journals without the one-year waiting period
- 4) No thank you
- 5) Anything that could be found elsewhere. Examples: generic opinions or reviews, links to outside content, etc.
- 6) No Comment
- 7) I like the newsletter, no real suggestions either way
- 8) add student gpa accomplishments

9) unusual services provided

10) nothing

11) no changes needed

12) None

Unsure/no changes 8

Have not read 1

Library Services/resources and Student, social focus 3

Eliminate newsletter/prefer to use other resources 0

Increase newsletter visibility/awareness 3

Qualitative Data: Seventy-three respondents who said they do not read the UW-Stout University Library Newsletter.

Question: What would you like to see added to or eliminated from the University Library Newsletter?

- 1) I cannot say as I have not really read the Library Newsletter. I wasn't ever aware of such a thing!
- 2) ?
- 3) Unsure
- 4) Updates from popular authors
- 5) I can't say as I don't think I have ever seen it. I don't know how it is distributed now or what is in it now.
- 6) Na
- 7) Where do I find this document? I do not believe that I have ever seen it.
- 8) I have never seen a library newsletter.
- 9) no
- 10) I have never read/received a newsletter
- 11) Do not know
- 12) N/A
- 13) N/A

- 14) I have no idea
- 15) I didn't know there was one
- 16) To be honest I didn't even know the library had a newsletter. Where can I find it?
- 17) I don't recall ever receiving the newsletter. However, I would be interested in reading about new services, updates, and information regarding research papers etc.
- 18) more social things
- 19) --
- 20) I don't know because I didn't even know we had a Library Newspaper....
- 21) I don't know, I have never read it.
- 22) In general, I think newsletters are a waste of time. Most people will look on the website to find the information they need.
- 23) I have never read the newsletter.
- 24) N/A - Never read it before.
- 25) I do not pay attention to the library newsletter and so I cannot say my opinion on this.
- 26) never ever to pever the otter
- 27) I've never read it, so I don't know
- 28) I haven't ever seen one, so I guess I couldn't say
- 29) I am not familiar with the library newsletter!! Where is it distributed?
- 30) How do I get the newsletter? Never have seen it.
- 31) more stories or new internet resources

32) Relevance added

33) I didn't even realize that there was a newsletter. I would like to see more of the resources highlighted such as use of the archives and interlibrary loan. If journal holdings are increased I would like to know about that as well.

34) None

35) None

36) More events posted, fun things around campus to help students out. Make it look less like a newspaper - for most students they have no interest reading a newspaper, therefore the newsletter looks boring. Spice it up!

37) Where does one find notification of the newsletter, other than going to the website?

38) n/a

39) Don't even know to be honest.

40) Don't read often enough to comment

41) Student Section

42) I've never read it, so I cannot properly answer this.

43) Don't care

44) Sent as an email and I would read it

45) No

46) eliminated

47) I don't think I have ever read it.

48) N/a

49) NA

50) Na

51) Nothing, I don't really read it, and to be honest I didn't even know there was one.

Being a commuter I don't spend much time on campus.

52) Highlights of services

53) not sure

54) Eliminated

55) N/A

56) No recommendations

57) I would like to stop getting E-mails for surveys that don't apply to me, seeing as I

rarely ever use the library, nor do I read the newsletter.

58) I didn't know there was a newsletter

59) No comment

60) n/a

61) I don't/wouldn't read it

62) I have never heard of nor read the library newsletter prior to taking this survey.

63) NA

64) I am studying abroad so right now it would not be helpful but I didn't even know there

was a newsletter

65) n/a

66) No

67) I don't read it so I can't say

68) I am not sure. I have never read it.

69) NA

70) this survey sucks

71) These surveys about it.

72) I do not believe I receive it.

Unsure/no changes 62

Have not read 29

Library Services/resources and Student social focus 4

Eliminate newsletter/prefer to use other resources 5

Increase newsletter visibility/awareness 32

Appendix D: Survey Instrument



UW-Stout University Library Newsletter Survey

Implied Consent Statement to Participate In UW-Stout Approved Research

Title:

Data-Driven Decision Making: The Transition from Data Analysis to Creating an Actionable Agenda

Researcher:

John Bush
715/309-5040
bushj6298@my.uwstout.edu

Research Sponsor:

David A. Johnson, Ph.D.
715/232-2143
johnsondav@uwstout.edu

Description:

This study involves survey data collection in an effort to better understand and anticipate the needs of readers of the University Library Newsletter. Questions will include participant input regarding content and format of the newsletter to better serve patron needs and improve the quality and relevance of included information.

Risks and Benefits:

There are no direct risks anticipated for subjects participating in this study. The anticipated benefits include an improved ability for the University Library to serve the research and learning needs of students, faculty and staff.

Special Populations:

If you are under the age of 18 years old, please DO NOT complete this survey since you are unable to legally provide the required consent.

Time Commitment:

It should take a maximum 10-15 minute time commitment to complete this survey.

Confidentiality:

Any information you provide will be held in strict confidence. We have not included any means to identify you by the information you submit.

Right to Withdraw:

Your participation in this study is entirely voluntary. You may choose not to participate without any adverse consequences to you. You have the right to stop the survey at any time. However, should you choose to participate and later wish to withdraw from the study, there is no way to identify your anonymous document after it has been turned in to the investigator. If you are participating in an anonymous online survey, once you submit your response, the data cannot be linked to you and cannot be withdrawn.

IRB Approval:

This study has been reviewed and approved by The University of Wisconsin-Stout's Institutional Review Board (IRB). The IRB has determined that this study meets the ethical obligations required by federal law and University policies. If you have questions or concerns regarding this study please contact the Investigator or Advisor. If you have any questions, concerns, or reports regarding your rights as a research subject, please contact the IRE Administrator.

If you have any questions or concerns please feel free to contact any of the following:

Researcher:

John Bush
715/309-5040
bushj6298@my.uwstout.edu

IRE Administrator:

Sue Foxwell, Research Services
152 Vocational Rehabilitation Bldg.
UW-Stout
Menomonie, WI 54751
715-232-2477
foxwells@uwstout.edu

Research Sponsor:

David A. Johnson, Ph.D.
715/232-2143
johnsondav@uwstout.edu

Statement of Consent: By completing the following survey you agree to participate in the project entitled, *Data-Driven Decision Making: The Transition from Data Analysis to Creating an Actionable Agenda*.

UW-Stout University Library Newsletter Survey

This research has been reviewed by the UW-Stout IRB as required by the Code of Federal Regulations Title 45 Part 46.

Informed Consent: All UW-Stout faculty, staff, and students conducting human subjects research under an approved "exempt" category are still ethically bound to follow the basic ethical principles of the Belmont Report: 1) respect for persons; 2) beneficence; and 3) justice. These three principles are best reflected in the practice of obtaining informed consent from participants.

Instructions: Choose the answer that best applies to each of the following.

Tip: Your browser should allow you to hit the "ctrl" and "+" keys to enlarge type size the and "ctrl" and "-" keys to reduce type size.

Have you read the UW-Stout Library Newsletter?

- Yes No

How often do you read the library newsletter?

- Never Rarely Sometimes Often All of the Time

I am more likely to read the newsletter if it is distributed

- More Often and Contains Less Content More Often and Contains More Content Less Often and Contains More Content
 Less Often and Contains Less Content

Please rate your feelings regarding the following statements.

| | Strongly Agree | Agree | Neither Agree nor Disagree | Disagree | Strongly Disagree |
|---|-----------------------|-----------------------|----------------------------|-----------------------|-----------------------|
| <i>I am more likely to read a newsletter than a blog.</i> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <i>I am more likely to read the library newsletter if it has video content.</i> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <i>I am more likely to use library services mentioned in the library newsletter.</i> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <i>I am more likely to read the library newsletter as page count (number of pages) increases.</i> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

I am more likely to read the library newsletter if it contains

- 1-3 Pages 3-6 Pages 6-9 Pages 9-12 Pages

I would be more likely to read the newsletter if it was distributed

- Once Per Semester Twice Per Semester Monthly

UW-Stout University Library Newsletter Survey

Please rank the following items on a scale of one to five. One represents the content you most appreciate, whereas five represents the content you least appreciate.

☰ Staff Spotlight & Human Interest

☰ Book and movie trailers in video format

2

☰ Video content that highlights library services

☰ Book reviews written by University Library Staff

☰ Video Tutorials demonstrating the use of library resources

Which of the following most closely represents your use of *either* on-campus or online University Library resources?

- Daily
- Weekly
- Monthly
- At least once per semester
- Less than once per semester

Which of the following best describes your *primary* role at the university?

- Student Faculty Staff

Academic standing, only applies to those whose *primary* role at the university is that of a student

- Freshman Sophomore Junior Senior Graduate Student Other

What would you like to see *added* to or *eliminated* from the University Library Newsletter?

Gender

- Male Female

Thank you very much for your time!

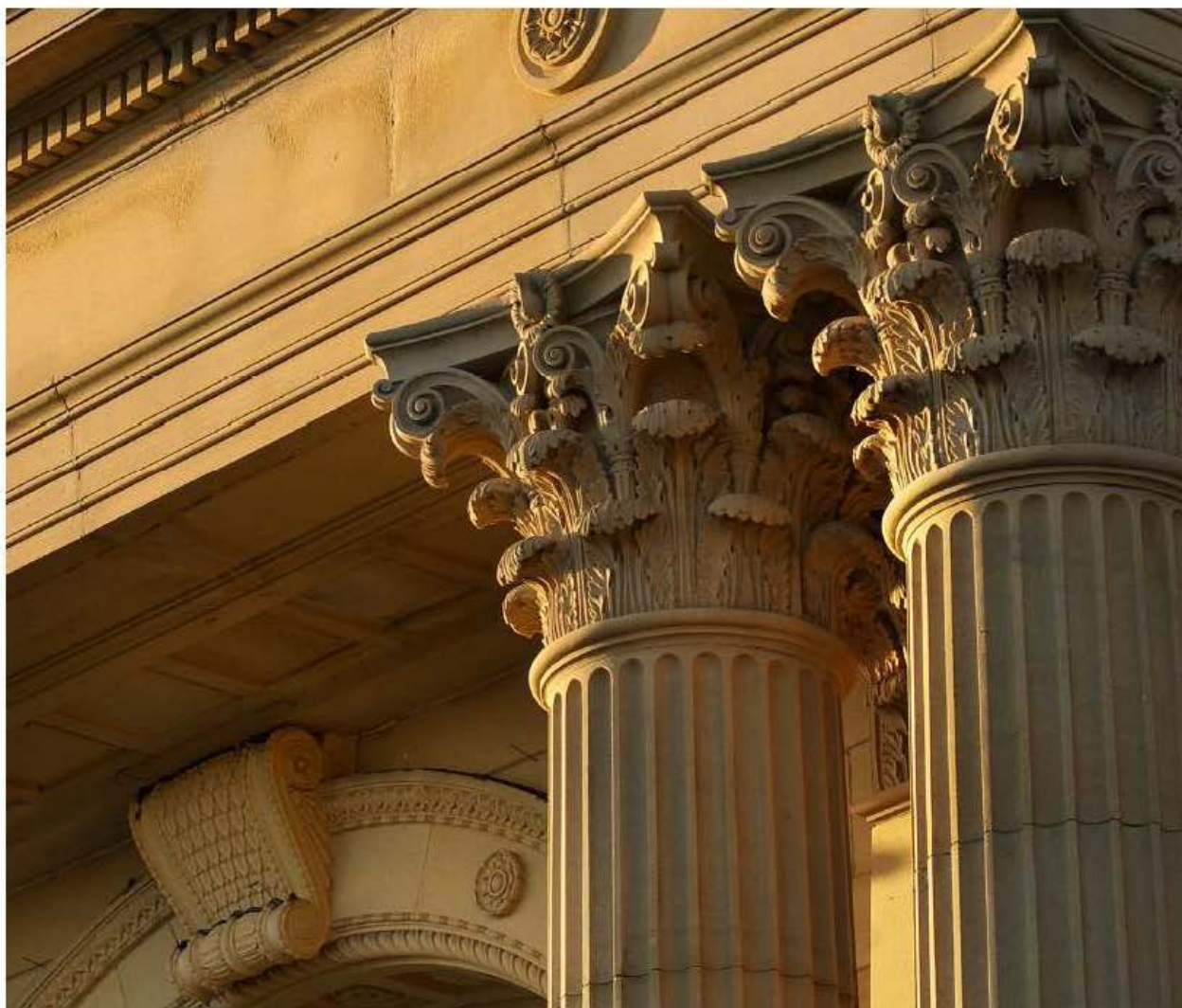


Appendix E: The SCONUL Seven Pillars of Information Literacy

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The SCONUL Seven Pillars of Information Literacy

Core Model
For Higher Education



SCONUL Working Group on Information Literacy
April 2011

The SCONUL Seven Pillars of Information Literacy: Core Model ²

Introduction

In 1999, The SCONUL Working Group on Information Literacy published "Information skills in higher education: a SCONUL position paper" (SCONUL, 1999), introducing the Seven Pillars of Information Skills model. Since then, the model has been adopted by librarians and teachers around the world as a means of helping them to deliver information skills to their learners.

However, in 2011 we live in a very different information world and while the basic principles underpinning the original Seven Pillars model remain valid, it was felt that the model needed to be updated and expanded to reflect more clearly the range of different terminologies and concepts which we now understand as "Information Literacy".

In order for the model to be relevant to different user communities and ages, the new model is presented as a generic "core" model for Higher Education, to which a series of "lenses", representing the different groups of learners, can be applied.

At publication (April 2011), only the Core Model and the Research Lens are available. We hope that teachers and librarians representing other learner groups will participate in the development of other lenses.

Moira Bent & Ruth Stubbings

On behalf of the SCONUL Working Group on Information Literacy.

April 2011



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http://www.sconul.ac.uk/groups/information_literacy/seven_pillars.html

The Seven Pillars of Information Literacy: the core model

Information Literacy is an umbrella term which encompasses concepts such as digital, visual and media literacies, academic literacy, information handling, information skills, data curation and data management.

Definition

Information literate people will demonstrate *an awareness of how they gather, use, manage, synthesise and create information and data in an ethical manner and will have the information skills to do so effectively.*

In the 21st century, information literacy is a key attribute for everyone, irrespective of age or experience. Information Literacy is evidenced through understanding the ways in which information and data is created and handled, learning skills in its management and use and modifying learning attitudes, habits and behaviours to appreciate the role of information literacy in learning. In this context learning is understood as the constant search for meaning by the acquisition of information, reflection, engagement and active application in multiple contexts (NASPA, 2004)

Developing as an information literate person is a continuing, holistic process with often simultaneous activities or processes which can be encompassed within the Seven Pillars of Information Literacy. Within each "pillar" an individual can develop from "novice" to "expert" as they progress through their learning life, although, as the information world itself is constantly changing and developing, it is possible to move down a pillar as well as progress up it. The expectations of levels reached on each pillar may be different in different contexts and for different ages and levels of learner and is also dependent on experience and information need. Any information literacy development must therefore also be considered in the context of the broad information landscape in which an individual operates and their personal information literacy landscape (Bent, 2008).

This model defines the core **skills and competencies** (ability) and **attitudes and behaviours** (understanding) at the heart of information literacy development in higher education.

Lenses

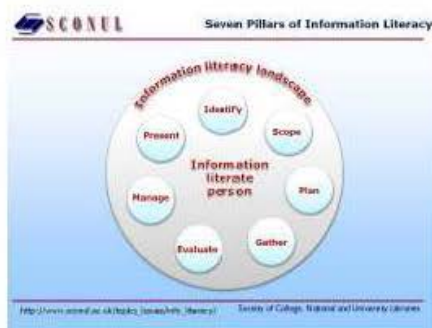
A series of "lenses" is being developed for different user populations to enable the model to be applied in specific situations. The lenses may extend or simplify the core higher education model, depending on the learner group to which they relate. Contributions to the lens development from professionals working with different user groups are welcomed.

The SCONUL Seven Pillars of Information Literacy: Core Model ⁴

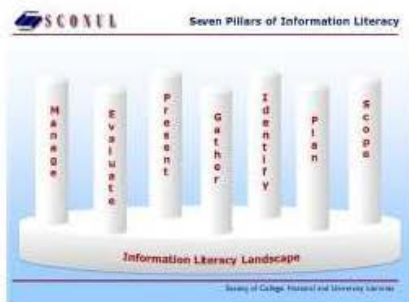
How to use this model

The model is conceived as a three dimensional circular “building”, founded on an information landscape which comprises the information world as it is perceived by an individual at that point in time. The picture is also coloured by an individual’s personal information literacy landscape, in other words, their aptitude, background and experiences, which will affect how they respond to any information literacy development.

The circular nature of the model demonstrates that becoming information literate is not a linear process; a person can be developing within several pillars simultaneously and independently, although in practice they are often closely linked.



Each pillar is further described by a series of statements relating to a set of skills/competencies and a set of attitudes/understandings. It is expected that as a person becomes more information literate they will demonstrate more of the attributes in each pillar and so move towards the top of the pillar. The names of the pillars can be used to map across to other frameworks (for example, the Researcher Development Framework (Vitae, 2010)) or to describe part of the learning process.



The core model describes a set of generic skills and understandings; for different user communities a “lens” can be developed which highlights different attributes, adds in more complex or simpler statements and uses language recognised by the specific community which it represents. In this way, it is hoped the model can be used flexibly by individuals and teachers who can adapt it as appropriate to personal circumstances.

IDENTIFY

Able to identify a personal need for information

Understands:

- That new information and data is constantly being produced and that there is always more to learn
- That being information literate involves developing a learning habit so new information is being actively sought all the time
- That ideas and opportunities are created by investigating/seeking information
- The scale of the world of published and unpublished information and data

Is able to:

- Identify a lack of knowledge in a subject area
 - Identify a search topic / question and define it using simple terminology
 - Articulate current knowledge on a topic
 - Recognise a need for information and data to achieve a specific end and define limits to the information need
 - Use background information to underpin the search
 - Take personal responsibility for an information search
 - Manage time effectively to complete a search
-

SCOPE

Can assess current knowledge and identify gaps

Understands:

- What types of information are available
- The characteristics of the different types of information source available to them and how they may be affected by the format (digital, print)
- The publication process in terms of why individuals publish and the currency of information
- Issues of accessibility
- What services are available to help and how to access them

Is able to:

- “Know what you don’t know” to identify any information gaps
 - Identify which types of information will best meet the need
 - Identify the available search tools, such as general and subject specific resources at different levels
 - Identify different formats in which information may be provided
 - Demonstrate the ability to use new tools as they become available
-

PLAN

Can construct strategies for locating information and data

Understands:

- The range of searching techniques available for finding information.
- The differences between search tools, recognising advantages and limitations
- Why complex search strategies can make a difference to the breadth and depth of information found
- The need to develop approaches to searching such that new tools are sought for each new question (not relying always on most familiar resources)
- The need to revise keywords and adapt search strategies according to the resources available and / or results found
- The value of controlled vocabularies and taxonomies in searching

Is able to:

- Scope their search question clearly and in appropriate language
 - Define a search strategy by using appropriate keywords and concepts, defining and setting limits
 - Select the most appropriate search tools
 - Identify controlled vocabularies and taxonomies to aid in searching if appropriate
 - Identify appropriate search techniques to use as necessary
 - Identify specialist search tools appropriate to each individual information need
-

GATHER

Can locate and access the information and data they need

Understands:

- How information and data is organised, digitally and in print sources
- How libraries provide access to resources
- How digital technologies are providing collaborative tools to create and share information
- The issues involved in collecting new data
- The different elements of a citation and how this describes an information resource
- The use of abstracts
- The need to keep up to date with new information
- The difference between free and paid for resources
- The risks involved in operating in a virtual world
- The importance of appraising and evaluating search results

Is able to:

- Use a range of retrieval tools and resources effectively
 - Construct complex searches appropriate to different digital and print resources
 - Access full text information, both print and digital, read and download online material and data
 - Use appropriate techniques to collect new data
 - Keep up to date with new information
 - Engage with their community to share information
 - Identify when the information need has not been met
 - Use online and printed help and can find personal, expert help
-

EVALUATE

Can review the research process and compare and evaluate information and data

Understands:

- The information and data landscape of their learning/research context
- Issues of quality, accuracy, relevance, bias, reputation and credibility relating to information and data sources
- How information is evaluated and published, to help inform personal evaluation process
- The importance of consistency in data collection
- The importance of citation in their learning/research context

Is able to:

- Distinguish between different information resources and the information they provide
 - Choose suitable material on their search topic, using appropriate criteria
 - Assess the quality, accuracy, relevance, bias, reputation and credibility of the information resources found
 - Assess the credibility of the data gathered
 - Read critically, identifying key points and arguments
 - Relate the information found to the original search strategy
 - Critically appraise and evaluate their own findings and those of others
 - Know when to stop
-

MANAGE

Can organise information professionally and ethically

Understands:

- Their responsibility to be honest in all aspects of information handling and dissemination (e.g. copyright, plagiarism and intellectual property issues)
- The need to adopt appropriate data handling methods
- The role they play in helping others in information seeking and management
- The need to keep systematic records
- The importance of storing and sharing information and data ethically
- The role of professionals, such as data managers and librarians, who can advise, assist and support with all aspects of information management

Is able to:

- Use bibliographical software if appropriate to manage information
 - Cite printed and electronic sources using suitable referencing styles
 - Create appropriately formatted bibliographies
 - Demonstrate awareness of issues relating to the rights of others including ethics, data protection, copyright, plagiarism and any other intellectual property issues
 - Meet standards of conduct for academic integrity
 - Use appropriate data management software and techniques to manage data
-

PRESENT

Can apply the knowledge gained: presenting the results of their research, synthesising new and old information and data to create new knowledge and disseminating it in a variety of ways

Understands:

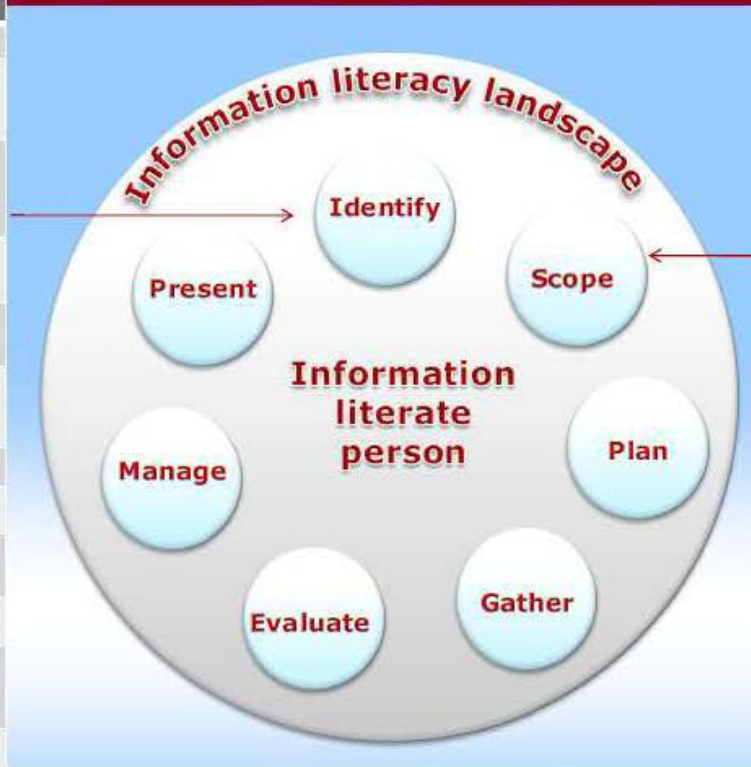
- The difference between summarising and synthesising
- That different forms of writing/ presentation style can be used to present information to different communities
- That data can be presented in different ways
- Their personal responsibility to store and share information and data
- Their personal responsibility to disseminate information & knowledge
- How their work will be evaluated
- The processes of publication
- The concept of attribution
- That individuals can take an active part in the creation of information through traditional publishing and digital technologies (e.g. blogs, wikis)

Is able to:

- Use the information and data found to address the original question
 - Summarise documents and reports verbally and in writing
 - Incorporate new information into the context of existing knowledge
 - Analyse and present data appropriately
 - Synthesise and appraise new and complex information from different sources
 - Communicate effectively using appropriate writing styles in a variety of formats
 - Communicate effectively verbally
 - Select appropriate publications and dissemination outlets in which to publish if appropriate
 - Develop a personal profile in the community using appropriate personal networks and digital technologies (e.g. discussion lists, social networking sites, blogs, etc.)
-

| Identify | Scope | Plan | Gather | Evaluate | Manage | Present |
|--|--|---|--|---|--|--|
| Understands: | Understands: | Understands: | Understands: | Understands: | Understands: | Understands: |
| <ul style="list-style-type: none"> New information & data is constantly being produced & that there is always more to Being information literate involves developing a learning habit so new information is being actively sought all the time Ideas and opportunities are created by investigating / seeking information Scale of the world of published and unpublished information and data | <ul style="list-style-type: none"> What types of information are available The characteristics of the different types of information source available to them & how they may be affected by format The publication process in terms of why individuals publish & the currency of information Issues of accessibility What services are available to help & how to access them | <ul style="list-style-type: none"> Range of searching techniques available Differences between search tools Why complex search strategies can make a difference to the breadth & depth of information found Need to develop approaches to searching such that new tools are sought for each new question Need to revise keywords & adapt strategies Value of controlled vocabularies & taxonomies in searching | <ul style="list-style-type: none"> How information & data is organised How libraries provide access to resources How digital technologies are providing collaborative tools to create & share information Issue involved in collecting new data Different elements of a citation Use of abstracts Need to keep up to date Difference between free & paid for resources Risks involved in operating in a virtual world Importance of appraising & evaluating search results | <ul style="list-style-type: none"> Information & data landscape or their learning / research context Issues of quality, accuracy, relevance, bias, reputation & credibility relating to information & data sources How information is evaluated & published, to help inform personal evaluation process Importance of consistency in data collection Importance of citation in their learning / research context | <ul style="list-style-type: none"> Responsibility to be honest in all aspects of information handling & dissemination Need to adopt appropriate data handling methods Role play in helping others in information seeking & management Need to keep systematic records Importance of storing & sharing information/data ethically Relevance of Freedom of Information to research activities Need to curate and archive research data ethically Importance of metadata Role of professionals in advising with all aspects of info management | <ul style="list-style-type: none"> Difference between summarising & synthesising Different formats of writing / presentation styles Data can be presented in different ways Personal responsibility to store & share information & data Personal responsibility to disseminate information & knowledge How their work will be evaluated Processes of publication Concept of attribution Individual can take an active part in creation of information through traditional publishing & digital technologies |
| Is able to: | Is able to: | Is able to: | Is able to: | Is able to: | Is able to: | Is able to: |
| <ul style="list-style-type: none"> Identify a lack of knowledge in a subject area Identify a search topic / question and define it using simple terminology Articulate current knowledge on a topic Recognise a need for information and data to achieve a specific end and define limits to the information need Use background information to underpin research Take personal responsibility for an information search Manage time effectively to complete a search | <ul style="list-style-type: none"> Know what you don't know" to identify any information gaps Identify which types of information will best meet the need Identify the available search tools, such as general and subject specific resources at different levels Identify different formats in which information may be provided Demonstrate the ability to use new tools as they become available | <ul style="list-style-type: none"> Scope their search question clearly and in appropriate language Define a search strategy by using appropriate keywords and concepts, defining and setting limits Select the most appropriate search tools Identify controlled vocabularies and taxonomies to aid in searching if appropriate Identify appropriate search techniques to use as necessary Identify specialist search tools appropriate to each individual information need | <ul style="list-style-type: none"> Use a range of retrieval tools & resources effectively Construct complex searches appropriate to different digital & print resources Access full text information Use appropriate search techniques to collect new data Keep up to date with new information Engage with their community to share information Identify when the information need has not been met Use online & print help & can find personal & expert help | <ul style="list-style-type: none"> Distinguish between different information resources Choose suitable material on their search topic Assess the quality, accuracy, relevance, bias, reputation & credibility of the resources found Assess the credibility of the data gathered Read critically, identifying key concepts & arguments Relate the information found to the original search strategy Critically appraise & evaluate own findings Know when to stop | <ul style="list-style-type: none"> Use bibliographic software if appropriate to manage information Cite printed & electronic resources using suitable referencing styles Create appropriately formatted bibliographies Demonstrate awareness of issues relating to the rights of others including ethics, data protection, copyright, plagiarism & other intellectual property issues Meet standards of conduct for academic integrity Use appropriate data management software & techniques to manage data | <ul style="list-style-type: none"> Use the information & data found to address original question Summarise documents and reports verbally & in writing Incorporate new information into context of existing knowledge Analyse & present data appropriately Synthesise & appraise new & complex information from different sources Communicate effectively using appropriate writing styles in a variety of formats Communicate effectively verbally Select appropriate publications & dissemination outlets in which to publish Develop a personal profile in the community using appropriate personal networks & |

| Identify |
|--|
| Understands: |
| <ul style="list-style-type: none"> • That new information & data is constantly being produced and that there is always more to learn • That being information literate involves developing a learning habit so new information is being actively sought all the time • That ideas and opportunities are created by investigating / seeking information • The scale of the world of published and unpublished information and data • That new information & data is constantly being produced and that there is always more to learn |
| Is able to: |
| <ul style="list-style-type: none"> • Identify a lack of knowledge in a subject area • Identify a search topic / question and define it using simple terminology • Articulate current knowledge on a topic • Recognise a need for information and data to achieve a specific end and define limits to the information need • Use background information to underpin research • Take personal responsibility for an information search • Manage time effectively to complete a search |



| Scope |
|---|
| Understands: |
| <ul style="list-style-type: none"> • What types of information are available • The characteristics of the different types of information source available to them and how the format can affect it • The publication process in terms of why individuals publish and the currency of information • Issues of accessibility • What services are available to help and how to access them |
| Is able to: |
| <ul style="list-style-type: none"> • "Know what you don't know" to identify any information gaps • Identify the types of information required to meet the need • Identify the available search tools, such as general and subject specific resources at different levels • Identify different formats in which information may be provided • Demonstrate the ability to use new tools as they become available |

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Appendix F: Data Analysis Plan



Planning, Assessment, Research And Quality (PARQ)

Data Analysis Plan

John Bush Research Project

Data-Driven Decision Making: The Transition from Data Analysis to Creating an Actionable Agenda

Spring 2013

April 15, 2013

Project Purpose:

I have surveyed students, faculty, and staff to find out what type of material and distribution of the University Library Newsletter best suits their respective needs. Are we meeting the needs of our intended audience? Investigate and discover means for increasing library newsletter readership.

Research Questions:

1. How is the campus using the newsletter?

Analyze using the following survey questions:

Q1: Have you read the UW-Stout Library Newsletter?

Q2: How often do you read the library newsletter?

Statistical tests:

a) For survey question Q1: use descriptive statistics – frequencies and percentages – to report if participants read the newsletter

b) For survey question Q2: use descriptive statistics – frequencies, percentages, average, and standard deviation – to report how often participants read the newsletter

2. How can the library better meet readers' needs via library newsletter content?

Analyze using the following survey questions:

Q4-1: I am more likely to read a newsletter than a blog

Q4-2: I am more likely to read the library newsletter if it has video content

Q4-3: I am more likely to use library services mentioned in the library newsletter

Q4-4: I am more likely to read the library newsletter as page count (number of pages) increases

Q7: Please rank the following items on a scale of one to five. One represents the content you most appreciate, whereas five represents the content you least appreciate.



Planning, Assessment, Research And Quality (PARQ)

Statistical tests:

- a. For all respondents:
 - i. For survey question Q4 (ALL 1-4): use descriptive statistics – frequencies, percentages, average, and standard deviation – to report participants’ feelings about newsletter content
 - ii. For survey question Q7: use frequencies & percentages to report content participants’ appreciate
- b. Split by newsletter reader and non-reader (survey Q1)
 - i. For survey question Q4 (ALL 1-4): use descriptive statistics – frequencies, percentages, average, and standard deviation – to report participants’ feelings about newsletter content
 - ii. For survey question Q7: use frequencies & percentages to report content participants’ appreciate
- c. Split by how often read newsletter (survey Q2)

- i. For survey question Q4 (ALL 1-4): use descriptive statistics – frequencies, percentages, average, and standard deviation – to report participants’ feelings about newsletter content
- ii. For survey question Q7: use frequencies & percentages to report content participants’ appreciate

3. How can the library better meet readers’ needs via newsletter length?

| How often do you read the library newsletter? | | Frequency |
|---|-----------|-----------|
| Valid | Never | 369 |
| | Rarely | 86 |
| | Sometimes | 36 |
| | Often | 6 |
| | Total | 497 |
| Missing | System | 80 |
| Total | | 577 |

Analyze using the following questions:

Q5: *I am more likely to read the library newsletter if it contains*



Planning, Assessment, Research And Quality (PARQ)

Statistical test:

- a. For all respondents: for survey question Q5, use descriptive statistics – frequencies and percentages – to report participants’ preference for library newsletter page length
- b. Split by newsletter reader and non-reader (survey Q1): for survey question Q5, use descriptive statistics – frequencies and percentages – to report participants’ preference for library newsletter page length
- c. Split by how often read newsletter (survey Q2) for survey question Q5, use descriptive statistics – frequencies and percentages – to report participants’ preference for library newsletter page length

4. How can the library better meet readers’ needs via newsletter distribution?

Analyze using the following questions:

Q3: I am more likely to read the newsletter if it is distributed (freq. and content)

Q6: I would be more likely to read the newsletter if it was distributed (frequency)

Statistical test:

- a. For all respondents:
 - i. For survey question Q3: use descriptive statistics – frequencies and percentages – to report how likely participants are to read the newsletter based on how often and amount of content
 - ii. For survey question Q6: use descriptive statistics – frequencies and percentages – to report how likely participants are to read the newsletter based on distribution frequency
- b. Split by newsletter reader and non-reader (survey Q1):
 - i. For survey question Q3: use descriptive statistics – frequencies and percentages – to report how likely participants are to read the newsletter based on how often and amount of content



Planning, Assessment, Research And Quality (PARQ)

- ii. For survey question Q6: use descriptive statistics – frequencies and percentages – to report how likely participants are to read the newsletter based on distribution frequency

- c. Split by how often read newsletter (survey Q2)
 - i. For survey question Q3: use descriptive statistics – frequencies and percentages – to report how likely participants are to read the newsletter based on how often and amount of content

 - ii. For survey question Q6: use descriptive statistics – frequencies and percentages – to report how likely participants are to read the newsletter based on distribution frequency

5. What would readers like to see added or eliminated from the University Library Newsletter?

Analyze using the following questions:

Q11: *What would you like to see added to or eliminated from the University Library Newsletter?*

Statistical test:

Use qualitative methods to group the responses into common themes. John will be the primary coder; upon request, PARQ can be the reviewer/secondary coder.

Appendix G: Human Subjects Form

University of Wisconsin Stout
Protection of Human Subjects in Research Form

Data collection/analysis cannot begin until there has been IRB approval of this project.

Directions:

- Individuals who have completed the UW-Stout Human Subjects Training and can prove certification are eligible to file this form.
- This form must be filed and approved prior to any student (undergraduate or graduate), faculty, or staff conducting research.
- Complete this form on-line and print. Handwritten forms will not be accepted. For your benefit, save your completed form in case it needs to be revised and resubmitted.
- Send or take the completed form, with required signatures and required materials attached, to Research Services, 152 Voc. Rehab. Building.
- This is a professional document; please check spelling, grammar and punctuation.

Research is defined as a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge.

A **human subject** is defined as a living individual about whom an investigator obtains either 1) data through intervention or interaction with the individual; or 2) identifiable private information.

Investigator(s):

Name: John Bush ID: 0617565 Daytime Phone # 715-309-5040 Program: Training and Human Resource Development
Graduate Student: Undergraduate:
e-mail address: bushj6298@my.uwstout.edu Signature: _____

Name: _____ ID: _____ Daytime Phone # _____ Program: _____ Graduate Student: Undergraduate:
e-mail address: _____ Signature: _____

Name: _____ ID: _____ Daytime Phone # _____ Program: _____ Graduate Student: Undergraduate:
e-mail address: _____ Signature: _____

For students:

Research Advisor's Name: David A. Johnson, Ph.D. Department: Industrial Management
Signature: _____ Date of Approval: _____
Research Advisor: Have you completed UW-Stout's Human Subjects Training? Yes No
Reminder: You must have completed the new training after January 2, 2007.

Project Title: Data-Driven Decision Making: The Transition from Data Analysis to Creating an Actionable Agenda

Sponsor (Funding agency, if applicable): N/A

Is this project being supported by Federal funding? Yes No

You must answer all of the following questions completely and attach all required forms.

1. Describe the proposed research/activity stating the objectives, significance, and detailed methodology (approximately 250-500 words; descriptions are to be written in future tense).

Objectives:

The research will include distribution of a survey in an effort to gather data useful in determining student, faculty, and staff needs as they relate to library services. Data collection and analysis will be performed to apply continuous improvement, Evidence Based Management/Data-Driven Decision Making and needs assessment principles to allow library leadership to more informed decisions in an effort to better meet the University Library Newsletter readership's needs.

Significance:

The University Library's mission is to "establish, promote and maintain quality services to support the UW-Stout's commitment to teaching, research, scholarship, and service." Given readership input, the University Library can position themselves to better serve patron needs and improve the library brand while creating greater awareness of the changing services used to meet those needs.

Detailed Methodology:

The investigator will request a simple random sample of 15% of the population of UW-Stout Students, faculty, and staff, from the campus Applied Research Center. Participants will be emailed an invitation to participate in the study by taking a survey on Qualtrics. The data will be analyzed with regard to frequency percentage of responses.

2. Is this research?

- (a) Is your activity intended for public dissemination? Yes No
 (b) Can it reasonably be generalized beyond the research sample? Yes No

If you answered "no" to both a and b, do not continue with this form. Stop here and submit form.

3. Does your research involve human subjects or official records about human subjects? Yes No

If yes, continue with this form. If no, stop here and submit form.

4. Are you requesting exemption from IRB review in one of the federally approved categories? If no, skip to Question #5 regarding Human Subjects Training. If yes, please select the category below that applies and continue with the form. The IRB will assess qualifications for exemption status based on your responses. If you have questions, more information about the exemption categories can be found on the OHRP website:
<http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.htm#46.101>.

The following categories of research are exempt from this policy:

- (1) Research conducted in *established or commonly accepted educational settings, involving normal educational practices*, such as (i) research on regular and special education instructional strategies, or (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.
- (2/3) Research involving the *use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior*, unless:
 (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; *AND* (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.
- (4) Research involving the collection or study of *existing* data, documents, records, or pathological or diagnostic specimens, *if these sources are publicly available OR* if the information is recorded by the investigator in such a manner that *subjects cannot be identified*, directly or through identifiers linked to the subjects.
- (5) Research and demonstration *projects which are conducted by or subject to the approval of department or agency heads*, and which are designed to study, evaluate, or otherwise examine:
 (i) *Public benefit or service programs*; (ii) procedures for obtaining benefits or services under those programs; (iii) possible changes in or alternatives to those programs or procedures; or (iv) possible changes in methods or levels of payment for benefits or services under those programs.
- (6) Research involving *taste and food quality evaluation* or consumer acceptance studies.
5. Human subjects training must be completed prior to filing this form. Have you completed UW-Stout's Human Subjects Training (<http://www2.uwstout.edu/rs/hstraining/index.htm>)? Yes No
6. Please note that research cannot begin until this project has been approved by the IRB. When is the data collection for the research *intended* to begin and end? **2/2013** to **2/2014** (enter month/year)
7. Can the subjects be identified directly or through any type of identifiers? Yes No If yes, please explain.

8. Special precautions must be included in your research procedures if any of these special populations or research areas are included.

Are any of the subjects:

- (a) minors (under 18 years of age)? Yes No
 (consent from parent & subject required)
- (b) legally incompetent? Yes No
- (c) prisoners? Yes No
- (d) pregnant women, if affected by the research? Yes No
- (e) institutionalized? Yes No
- (f) mentally incapacitated? Yes No

Does the research deal with questions concerning:

- (a) sexual behaviors? Yes No
- (b) drug use? Yes No
- (c) illegal conduct? Yes No
- (d) use of alcohol? Yes No

9. Voluntary participation/consent form:
 Expected Number of Participants **A simple random sample of 15% of students, faculty , and staff members will be requested from the Applied Research Center. The number of participants is anticipated to be approximately 1650.**
- Describe the method:
 (a) for selecting subjects.
A simple random sample of Students, faculty, and staff will be requested from the Applied Research Center.
- (b) for assuring that their participation is voluntary. If subjects are children and they are capable of assent, they must give their permission, along with that of their parent, guardian, or authorized representative. NOTE: A school district cannot give permission or consent on behalf of minor children.
In the event that one of the university students that receives the survey is under 18 years of age, they will be instructed not to participate in the survey. Survey recipients will be given the opportunity to withdraw at any time before they submit their survey, per the included consent form. Additionally, the request to the Applied Research Center will include a request that only participants over the age of 18 will be included in the sample.
10. Procedures: Describe how subjects will be involved in detail.
Subjects will be asked to complete a survey.
- If the study:
 (a) involves false or misleading information to subjects or
 (b) withholds information such that their informed consent might be questioned, or
 (c) uses procedures designed to modify the thinking, attitudes, feelings, or other aspects of the behavior of the subjects, describe the rationale for that, how the subjects will be protected and what debriefing procedures you will use.
N/A
11. Special precautions must be included in your research procedures if you are doing an online survey.
 Are you doing an online survey? Yes No
If yes, please answer the following questions. If no, please skip to the next question.
- (a) Will your survey results be posted on a website that could be accessed by individuals other than the investigators?
 Yes No
- (b) Does the URL for the survey include information that could identify individuals, such as a student ID?
 Yes No
- (c) When you send out an email inviting subjects to complete the survey:
 Will you place all of the email addresses in the "bcc" line? Yes No
 Will you have the "read receipt" function turned off? Yes No
- (d) If your survey contains questions where the subjects choose from a drop-down menu, do they have the option to choose "no response" or to leave the question blank?
 Yes No No drop-down questions
- If, in question #11, you answered "yes" to question (a) or (b), or if you answered "no" to question (c) or (d), please address your reason(s) when completing question #12.**
12. Confidentiality. Describe the methods to be used to ensure the confidentiality of data obtained.
Results of the survey will be reported only in aggregate form to assure confidentiality of information. Data will be secure on Qualtrics due to several layers of security. Data will be kept secure on investigators personal computer to which access is password protected.
13. Risks: Describe the risks to the subjects and the precautions that will be taken to minimize them. (Risk includes any potential or actual physical risk of discomfort, harassment, invasion of privacy, risk of physical activity, risk to dignity and self-respect, and psychological, emotional, or behavioral risk.) Also, address any procedures that might be different from what is commonly established practice for research of this type.
There are not any anticipated risks to subjects.

Appendix H: IRB Exemption



Research Services
152 Voc Rehab Building

University of Wisconsin-Stout
P.O. Box 790
Menomonie, WI 54751-0790

715/232-1126
715/232-1749 (fax)
<http://www.uwstout.edu/rs/>

March 1, 2013

John Bush
Training and Human Resources
UW-Stout

RE: Data-Driven Decision Making: The Transition from Data Analysis to Creating an Actionable Agenda

Dear John,

The IRB has determined your project, "*Data-Driven Decision Making: The Transition from Data Analysis to Creating an Actionable Agenda*" is **Exempt** from review by the Institutional Review Board for the Protection of Human Subjects. The project is exempt under **Category # 2** of the Federal Exempt Guidelines and holds for 5 years. Your project is approved from **2/27/2013**, through **2/26/2018**. Should you need to make modifications to your protocol or informed consent forms that do not fall within the exemption categories, you will need to reapply to the IRB for review of your modified study.

If your project involved administration of a survey, please copy and paste the following message to the top of your survey form before dissemination:

This project has been reviewed by the UW-Stout IRB as required by the Code of Federal Regulations Title 45 Part 46

If you are conducting an **online** survey/interview, please copy and paste the following message to the top of the form:

"This research has been reviewed by the UW-Stout IRB as required by the Code of Federal Regulations Title 45 Part 46."

Informed Consent: All UW-Stout faculty, staff, and students conducting human subjects research under an approved "exempt" category are still ethically bound to follow the basic ethical principles of the Belmont Report: 1) respect for persons; 2) beneficence; and 3) justice. These three principles are best reflected in the practice of obtaining informed consent from participants.

If you have questions, please contact Research Services at 715-232-1126, or foxwells@uwstout.edu, and your question will be directed to the appropriate person. I wish you well in completing your study.

Sincerely,

Susan Foxwell
Research Administrator and Human Protections Administrator,
UW-Stout Institutional Review Board for the Protection of Human Subjects in Research (IRB)

***NOTE: This is the only notice you will receive – no paper copy will be sent.**