STAFF/FACULTY IT SURVEY

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Executive Summary

On behalf of the ASU IT department, a comprehensive survey was conducted in April 2013 by ASU MBA students of ASU faculty and staff to explore satisfaction of software products and services provided by the IT department. The survey concentrated on having respondents rate their satisfaction in a number of services areas. Measurements were categorized into the areas of demographics, software satisfaction, hardware and network connectivity, IT service support, IT project office, IT Training Services, and changes in levels of satisfaction. Each of the 809 faculty and staff members at ASU were asked to participate in an online survey via email. Responses were collected from 296 participants thus yielding a response rate of 36.6%.

Respondents were asked to rate their satisfaction on the general concepts of functionality, reliability, ease of use, and interoperability for software, hardware, and network connectivity. Respondents were also asked to rate their satisfaction on customer service points in regards to the IT Service Support Center (ITSSC), the IT project office, and IT training services. Additional questions asked respondents to indicate the change in their level of satisfaction over past year with IT services. The survey concluded with an open response section to allow for respondents to share any additional thoughts about IT services.

The study also took into consideration the results of the last survey that was conducted in spring 2012. The results from the prior survey indicated that there were significant differences in service quality scores between user groups (primarily faculty vs. staff and Apple users vs. PC users). This year's study also tested for differences between these user groups to see if differences continue to exist between the groups.

Overall, responses regarding IT services were generally positive. However, there were recurring indications of weakness when it came to the concept of interoperability for all

software, hardware, and network connectivity categories. The open response section results yielded a number of common themes including high praise for the service support center and the continued difference in satisfaction regarding Windows and non-Windows users. The open response sections also yielded some recurring themes in regards to Banner software, the IT Service Support Center, and in IT training services.

Based on the results of this study, the following courses of action are suggested:

1) Research should be done to specifically pinpoint the reasons why Apple (Mac) users are less satisfied than PC users.
2) Further research should be done to determine ways to improve end user experience when using software or services on devices other than desktop computers.
3) Action should be taken to make IT support personnel more identifiable to clients.
4) The department may want to consider modifying Banner or Banner training services to improve user satisfaction for Banner software.
5) Improvements should be made to the availability and quality of technical support outside of normal operating hours.
6) Increase awareness of the IT project support office and the services it offers.
7) Increase the availability of IT training courses that are more accommodating to client schedules.
8) Incorporate measurements in future surveys that will hopefully serve as early indicators of changes in trends.

Introduction

The Angelo State University Information Technology Department is an integral part of the university that has grown in size and scope as the use of information technology has become more pervasive throughout all facets of the university experience. The IT department is in charge of providing and maintaining hardware and equipment in classrooms and meeting spaces, hardware and equipment for all offices and departments, and providing and maintaining the communication infrastructure for the university. Additionally, the department is responsible for maintaining data and software for a number of enterprise systems and applications for the campus. The IT department also has increased its scope to provide network space and server applications for itself and a number of other organizations.

The department has incorporated a system of continuous performance improvement through a multitude of processes. The processes include identifying growth trends in the areas of information technology, researching and utilizing best practice methods from other universities and organizations, introducing new services to address these trends, providing a streamlined and efficient way to deliver these services, and requesting feedback from the IT department's end users. An important part of this continuous performance process is the use of end user feedback and evaluation. Every year, the IT department, in coordination with graduate business students, conducts university wide measurements of satisfaction for students. Additional measurements of satisfaction have been conducted on a more intermittent basis for faculty and staff. With the IT landscape continuing to evolve on a constant basis, these satisfaction surveys have provided key

insights on what the IT department can do to continue to provide the best possible service to students, faculty, and staff. The purpose of this survey is to measure faculty and staff satisfaction in a number of service areas. The study is comprehensive in nature and its objective is to identify strengths, weaknesses, and opportunities for the information technology department to improve services offered to the faculty and staff.

Survey Design

A copy of the survey instrument used to gather data is included in Appendix I. In consultation with the IT department, the survey was designed to measure the following areas:

Demographics

Respondents were asked categorical questions regarding of device ownership, device usage for work, operating systems used, and university role. These responses were used to categorize respondents into groups for hypothesis testing and to help the IT department identify changes in the types of clients served.

Software Products

Measurements of satisfaction on selected software programs were based on product quality concepts of the software's ability to meet end user needs (functionality), the software's absence of operational failure (reliability), the user friendliness of the software (ease of use), and the software's ability to operate on multiple devices (interoperability).

Hardware & Network Connectivity

Measurements of satisfaction for concepts of functionality, reliability, ease of use, and interoperability were used to measure satisfaction for university network connectivity. Measurements of satisfaction for concepts of ease of use, reliability of equipment, quality and condition of equipment, and interoperability were used to measure satisfaction for IT hardware and equipment.

ITSSC, IT Project Office, IT Training

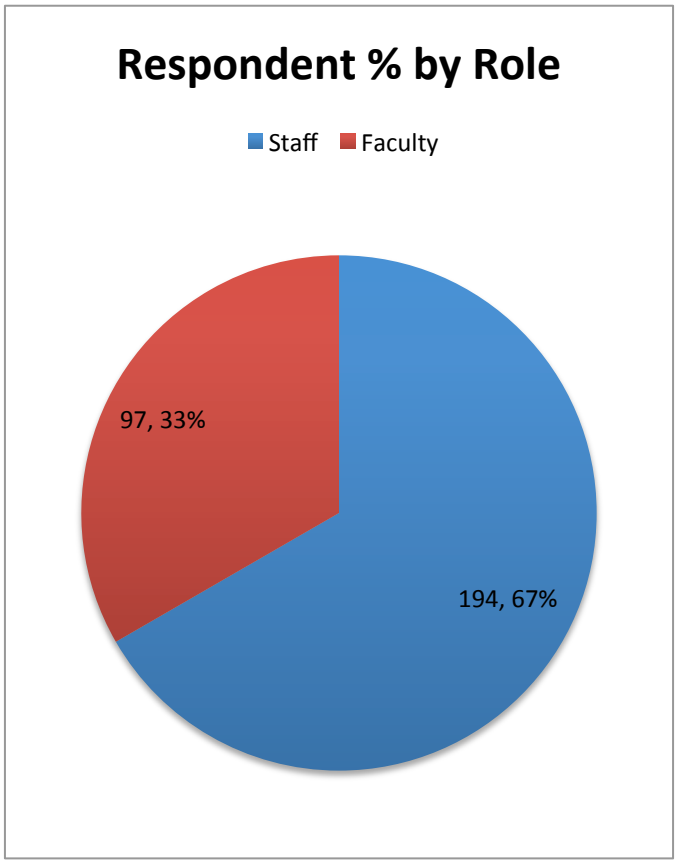
Various measurement questions were utilized to measure customer service satisfaction with the department's direct interactions with its client end users

Change in Satisfaction

Measurement questions asking the respondent to identify changes in their level of satisfaction were utilized to provide a measure of product and service satisfaction improvement in addition to general satisfaction.

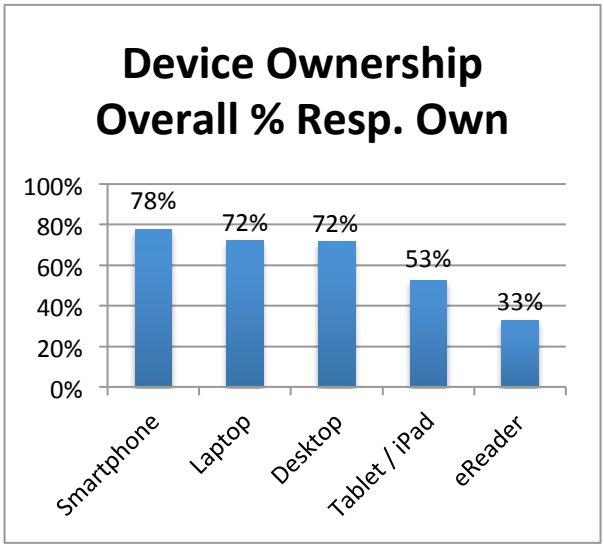
Survey Distribution

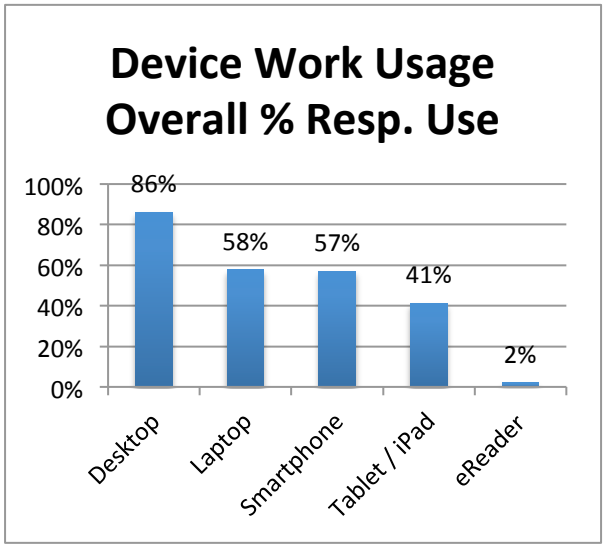
The survey was conducted online via a survey application program called Survey Monkey. Given the small size of the population, the survey distribution plan consisted of conducting a census of all faculty and staff. An email requesting survey participation was sent to 809 faculty and staff email addresses on April 10, 2013 (copies of all emails used in the data collection are included in Appendix II). A second reminder email request was sent on April 12th, and a final request for participation was sent on April 15th. The survey closed on April 16, 2013. From the 809 requests for participation, 296 faculty and staff members completed the survey, a 36.6% response rate. The table to the right shows the distribution between faculty and staff. Out of the 296 responses received 97 (33%) of the respondents identified themslves as faculty while 194 (67%) identified themselves as staff. In order to take full advantage of data provided by respondents, filtering criteria were applied to responses in relation to the category analyzed. The purpose of this method was to allow all data to be considered for the category that was being analyzed so as to avoid discarding relevant data in one subject matter simply because of non-response in another.



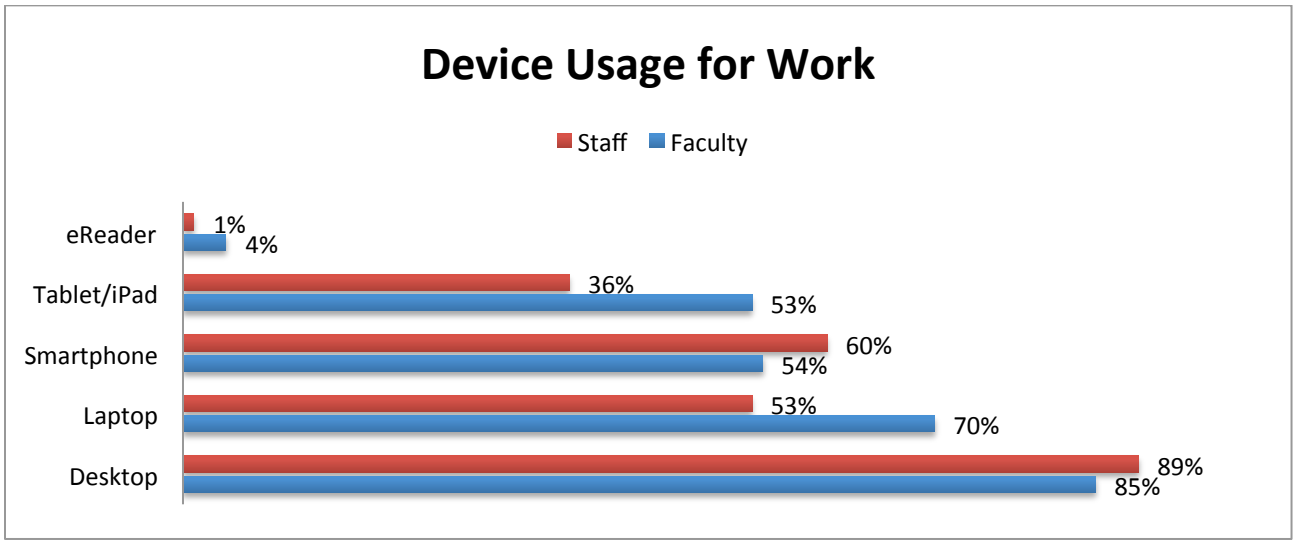
Demographics Analysis:

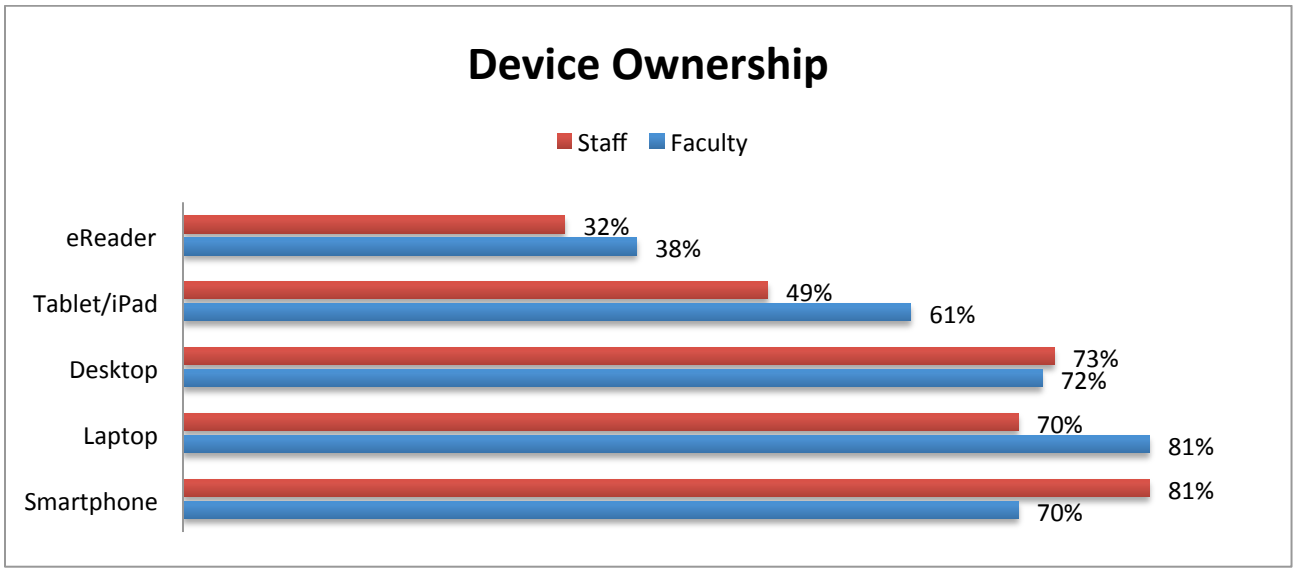
Part of the IT department's process of continuous performance improvement entails identifying growth trends in information technology so that they can be ready to address those trends and incorporate them into their services. Demographics questions were asked of respondents in order to get a better feel for the type of clients the department is serving. Respondents were asked questions regarding the type of operating system most often used when working, device ownership, and devices used when performing work related tasks. The results show that a substantial percentage of respondents own multiple devices and use multiple devices in their work:



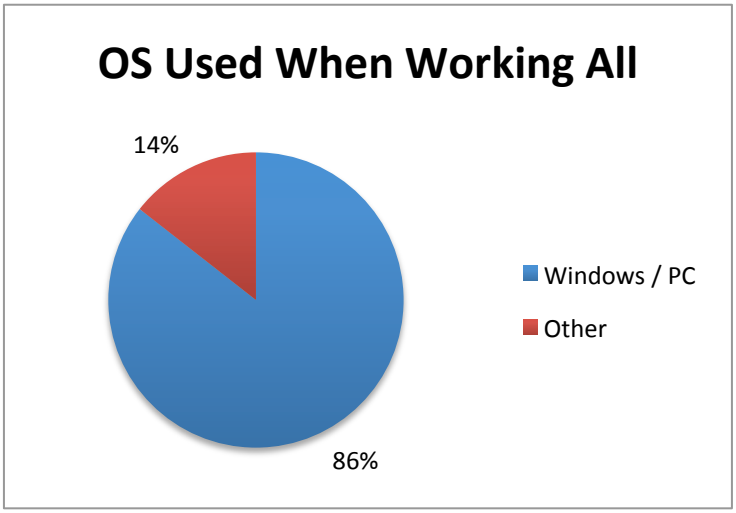


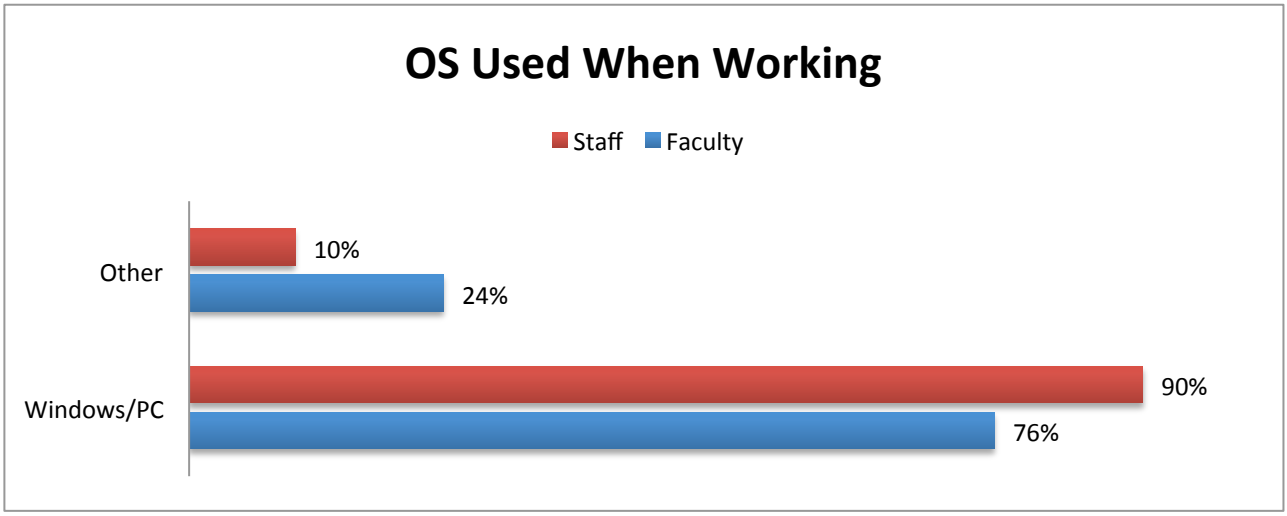
Types of device ownership and use were then split up between faculty and staff respondents. By comparing these separated groups, we can see the differences in their usage and ownership. The figures below illustrate the percentages in device work usage and device ownership between faculty and staff.



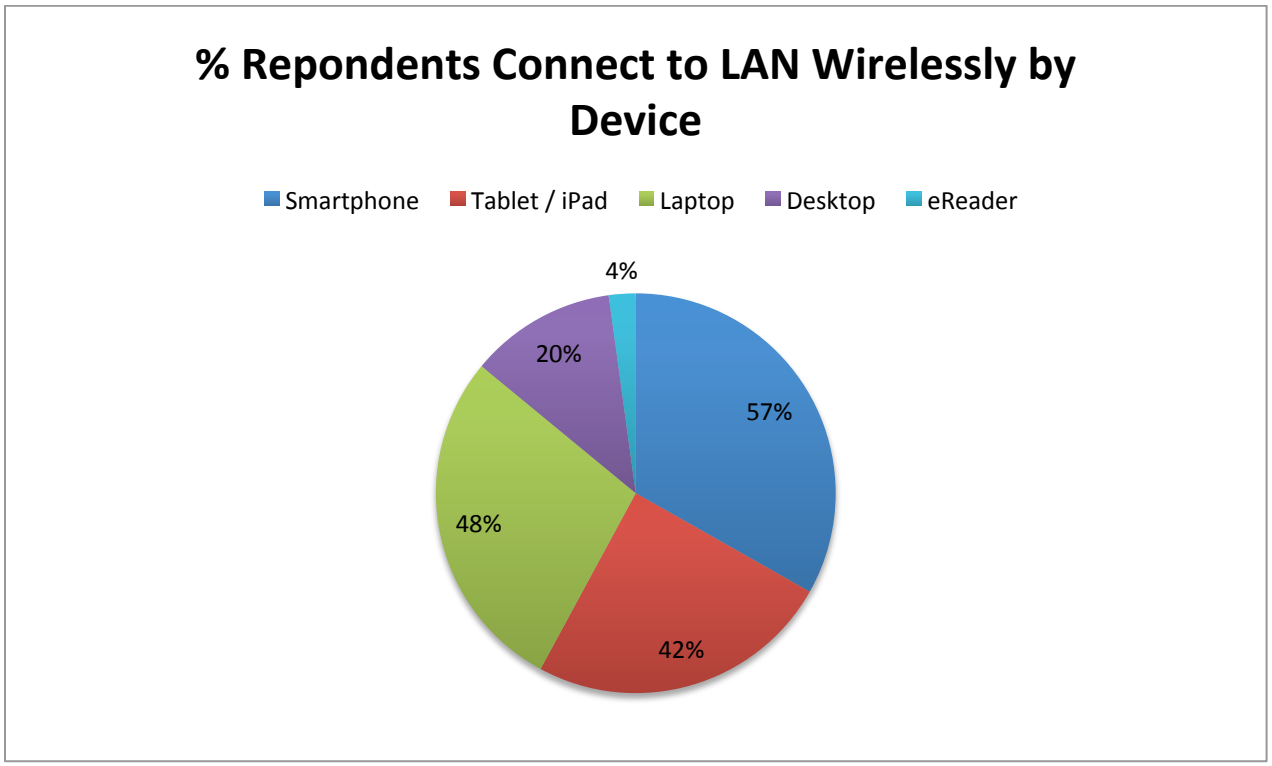


In addition to asking respondents to identify their role at ASU as either faculty or staff, respondents were asked to identify the type of operating system they used most often when performing work related tasks. The primary purpose was to use these categories in hypothesis testing. The last survey conducted in spring 2012 identified statically significant differences in SERVQUAL scores when comparing differences between these groups (faculty vs. staff and windows vs. non-windows users). While the study this year has instead focused on measuring satisfaction as opposed to service quality, statistical testing was still conducted to see if significant differences still exist between user groups. Due to the change in measurement methods we cannot infer performance improvement, but we can still test to see if these differences continue to exist. The figures above and below indicate that a majority of faculty and staff continue to use Windows based programs in their work.





An additional question was added to the survey regarding types of devices used to connect wirelessly to the university's local area network. The results are illustrated in the chart below.

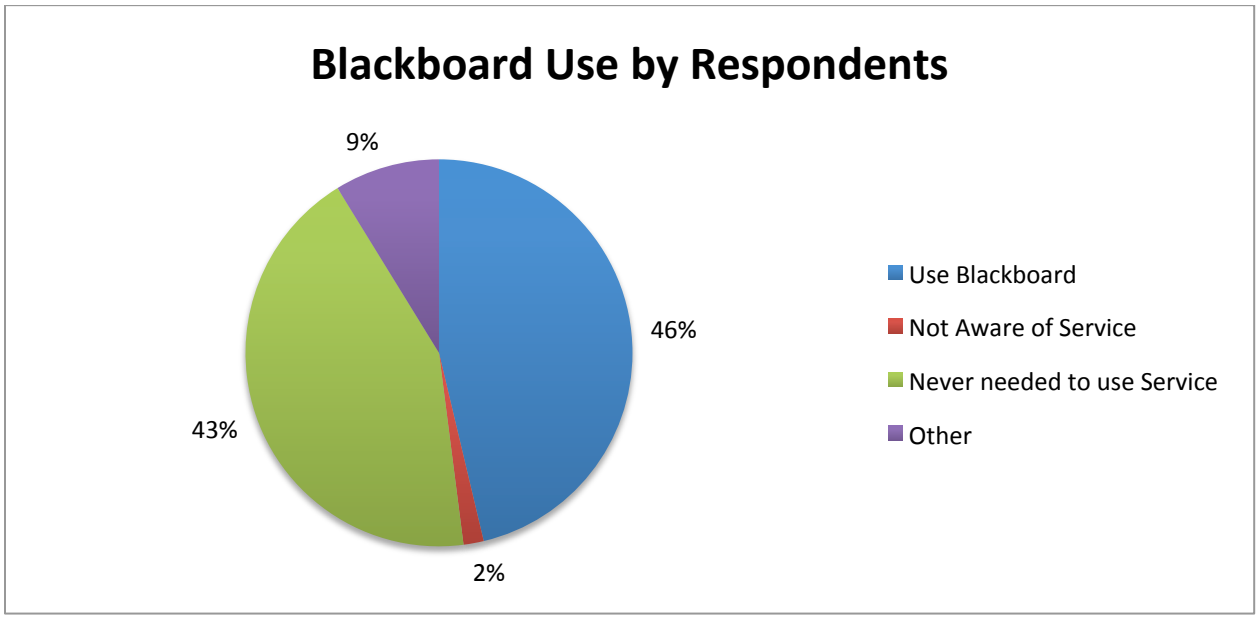


Software Analysis: Overview

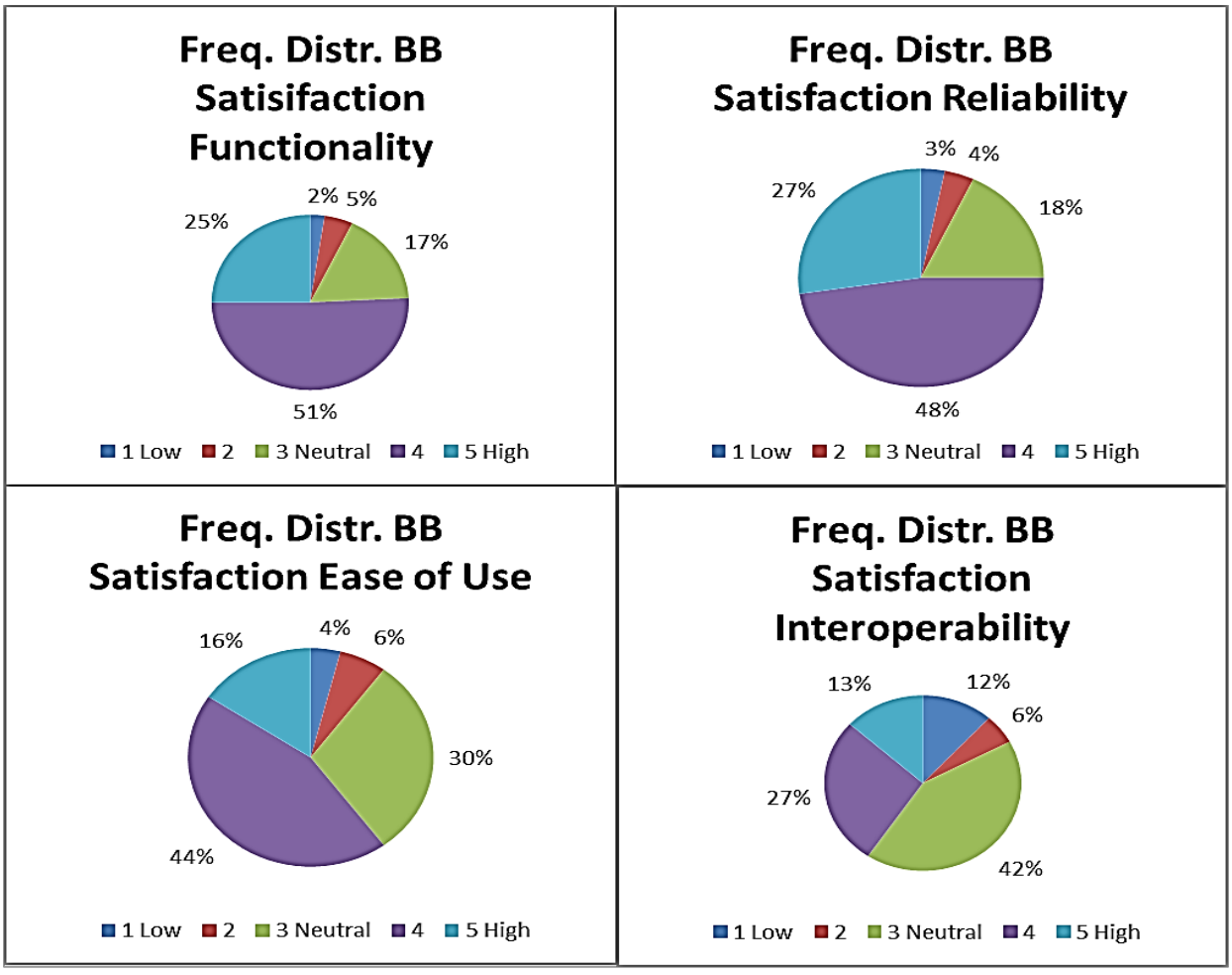
The university employs a wide variety of software programs in its education and business processes. The survey measured and gauged satisfaction of end users for Blackboard, email services, Ramport, and Banner. Categories for measurement centered on the concepts of functionality, reliability, ease of use and interoperability. Functionality was measured by asking the respondent to rate their satisfaction on the software's ability to meet their needs or, more succinctly, the ability of the software to perform the tasks that the end users require. Reliability was measured on the concept of the software being able to consistently and accurately perform the required task without failure or interruption in operation. The concept of ease of use is meant to measure user friendliness and lack of difficulty in utilizing the software. Interoperability was utilized as a measurement to indicate end user satisfaction in the ability to use the software on multiple hardware and/or operating systems. The metrics used to measure and analyze each of these concepts on each type of software consisted of asking respondents to rate their satisfaction on a scale of one (low) to five (high) with three as neutral.

Software Analysis: Blackboard

Blackboard is an enterprise based software system utilized by ASU faculty and students to facilitate the learning experience. The software is an open architecture system that allows faculty to customize screens, administer assignments, receive assignments, and administer exams. The software also serves as a platform for faculty and students to communicate with each other through online discussions regardless of location. Angelo State University has used the Blackboard system for a number of years and it is a mature and embedded system within the university's operations. Respondents were asked whether they used Blackboard and to indicate their reason for not using Blackboard if they responded that they do not use the software. Overall, 46% of respondents indicated that they use Blackboard. Of the 128 respondents that indicated they never needed to use the Blackboard, 117 identified themselves as staff, ten identified themselves as faculty, and one respondent declined to identify their role at ASU. There were five staff respondents who responded that they were not aware of Blackboard.



The survey asked respondents to rate their level of satisfaction in the concepts of functionality, reliability, ease of use and interoperability. In addition, each respondent score was averaged to create an overall satisfaction score for the software with each category having equal weight in calculating the average. Responses were filtered to include only those respondents that use Blackboard and successfully answered all measurement questions regarding satisfaction for each Blackboard category. Of the original 296 responses 128 responses were deemed valid based on the filtering criteria. The figures below show the frequency distribution for each response category for Blackboard.



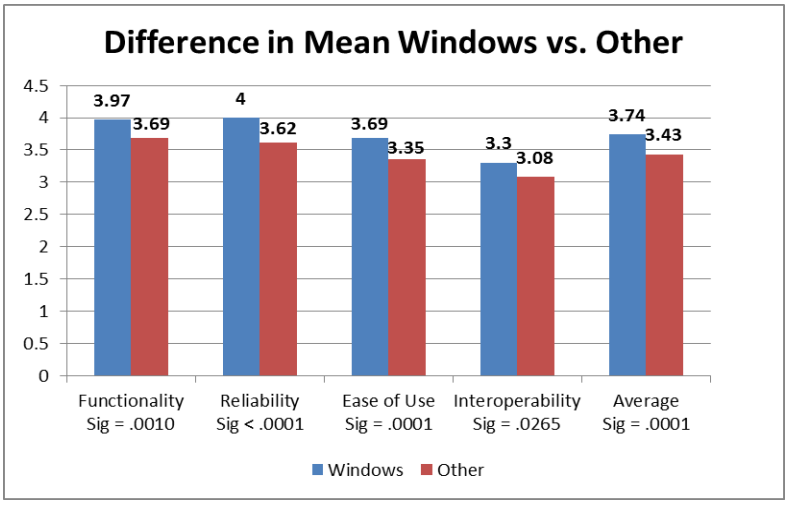
The table below summarizes statistics for satisfaction categories pertaining to Blackboard.

Summary Statistics for BB Users

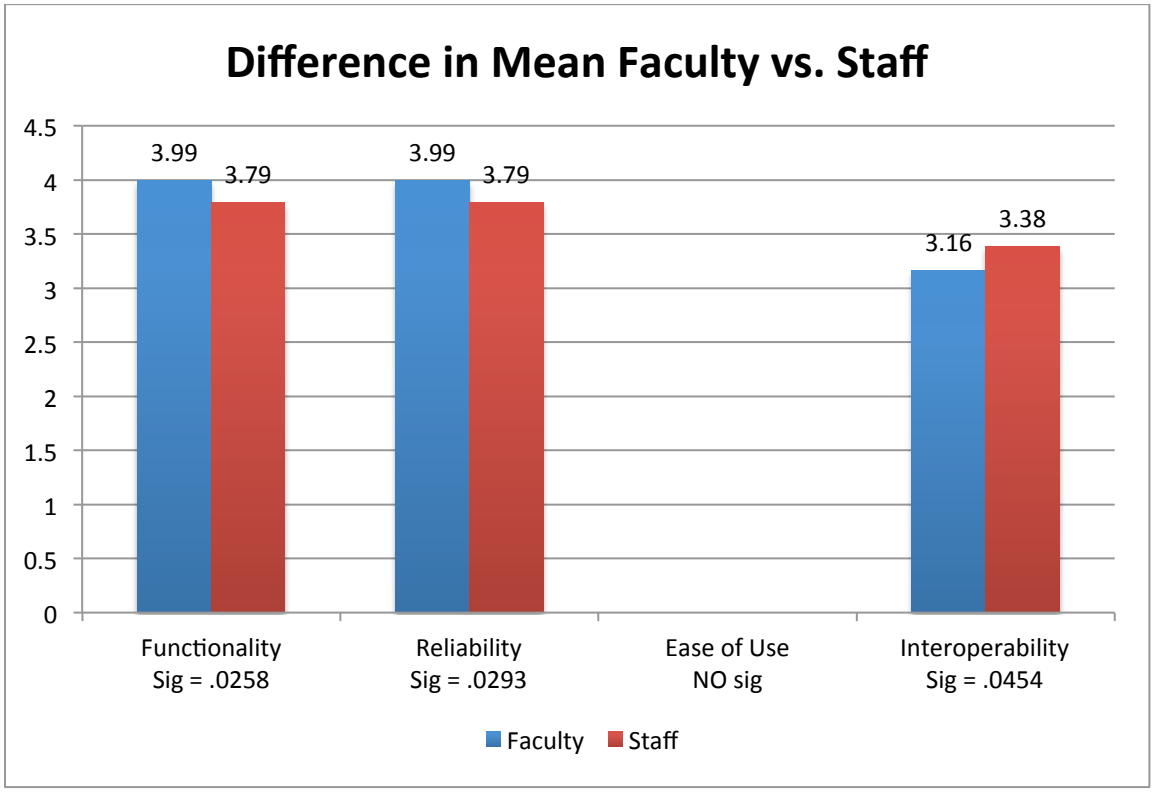
	Functionality	Reliability	Ease of Use	Interoperability	Average
Sample Size	128	128	128	128	128
Sample Mean	3.9141	3.9219	3.6172	3.250	3.6758
Sample Std Dev	0.9052	0.9442	0.9567	1.129	0.8171
Confidence	95.0%	95.0%	95.0%	95.0%	95.0%
df	127	127	127	127	127
95% Lower	3.7557	3.7567	3.4499	3.052	3.5329
95% Upper	4.0724	4.0870	3.7845	3.448	3.8187

As indicated by the data, end user satisfaction for Blackboard ranked overall positive with average scores in excess of the neutral rating of three. However, as indicated in the chart, the concepts of functionality and reliability ranked higher in relation to the concepts of ease of use and interoperability.

Simple t-tests were performed to test difference of mean scores between Windows operating system users and non-Windows users. The results of the test indicated that non Windows users (primarily Macintosh based operating system users) were less satisfied with Blackboard than Windows users. The results are shown to the right.

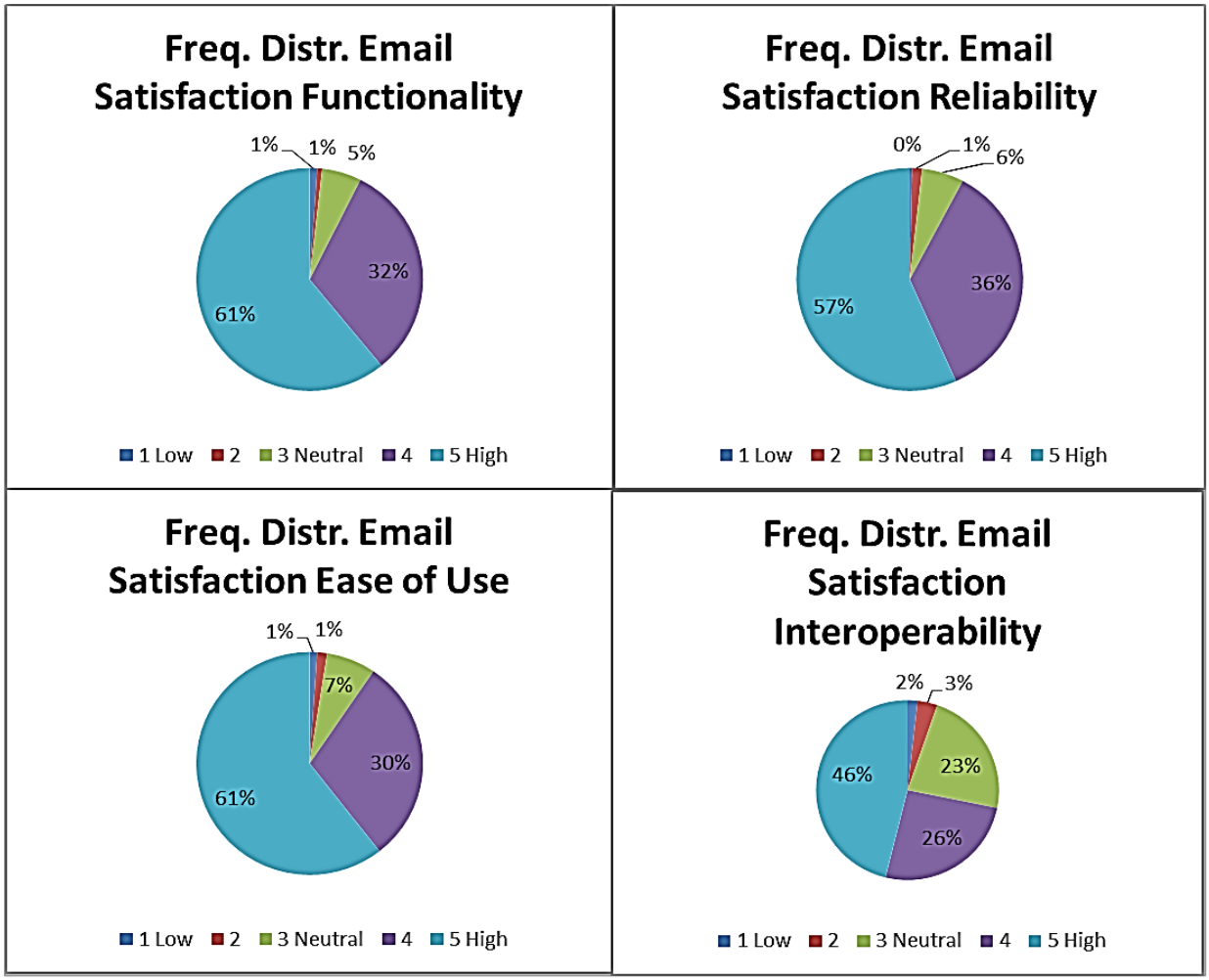


As indicated by the results, non-Windows operating system users were less satisfied overall than Windows users across all categories in Blackboard satisfaction. Additional t-tests were run to test differences in mean between faculty and staff. The results of the tests below indicated faculty were more satisfied for concepts of functionality and reliability than staff, while staff members were more satisfied regarding the concepts of interoperability.



Software Analysis: Email

A very large majority of all electronic communications among IT department clients is conducted via e-mail. The university email system utilizes a Microsoft Outlook Enterprise program for faculty and staff to communicate with students as well as with each other. The survey asked respondents to rate their level of satisfaction in regards to the concepts of functionality, reliability, ease of use, and interoperability. Again, each set of respondent scores were averaged to create an overall score with each category being equally weighted in calculation of the average overall score. Responses were filtered to include only those respondents that successfully answered measurements for each email satisfaction category. The following page displays the frequency distributions for each satisfaction category of email services.



Of the original 296 responses received, 284 responses were deemed valid based on the filtering criteria. Email service satisfaction performed well across all categories with scores averaging in excess of the rating of four. The weakest performing category in email satisfaction was in interoperability, although this weakness seems to be marginal given the frequency distribution of responses. The table on the following page summarizes statistics for satisfaction categories pertaining to email services.

Summary Statistics for Email Satisfaction					
	Email Satis Requirements	Email Satis Reliability	Email Satis Ease of Use	Email Satis Interop	Average Email Score
Sample Size	284	284	284	284	284
Sample Mean	4.5070	4.4683	4.4754	4.1092	4.3900
Sample Std Dev	0.7304	0.7051	0.7769	0.9904	0.6833
Confidence Level (Mean)	95.0%	95.0%	95.0%	95.0%	95.0%
Degrees of Freedom	283	283	283	283	283
Lower Limit	4.4217	4.3859	4.3846	3.9935	4.3102
Upper Limit	4.5924	4.5507	4.5661	4.2248	4.4698

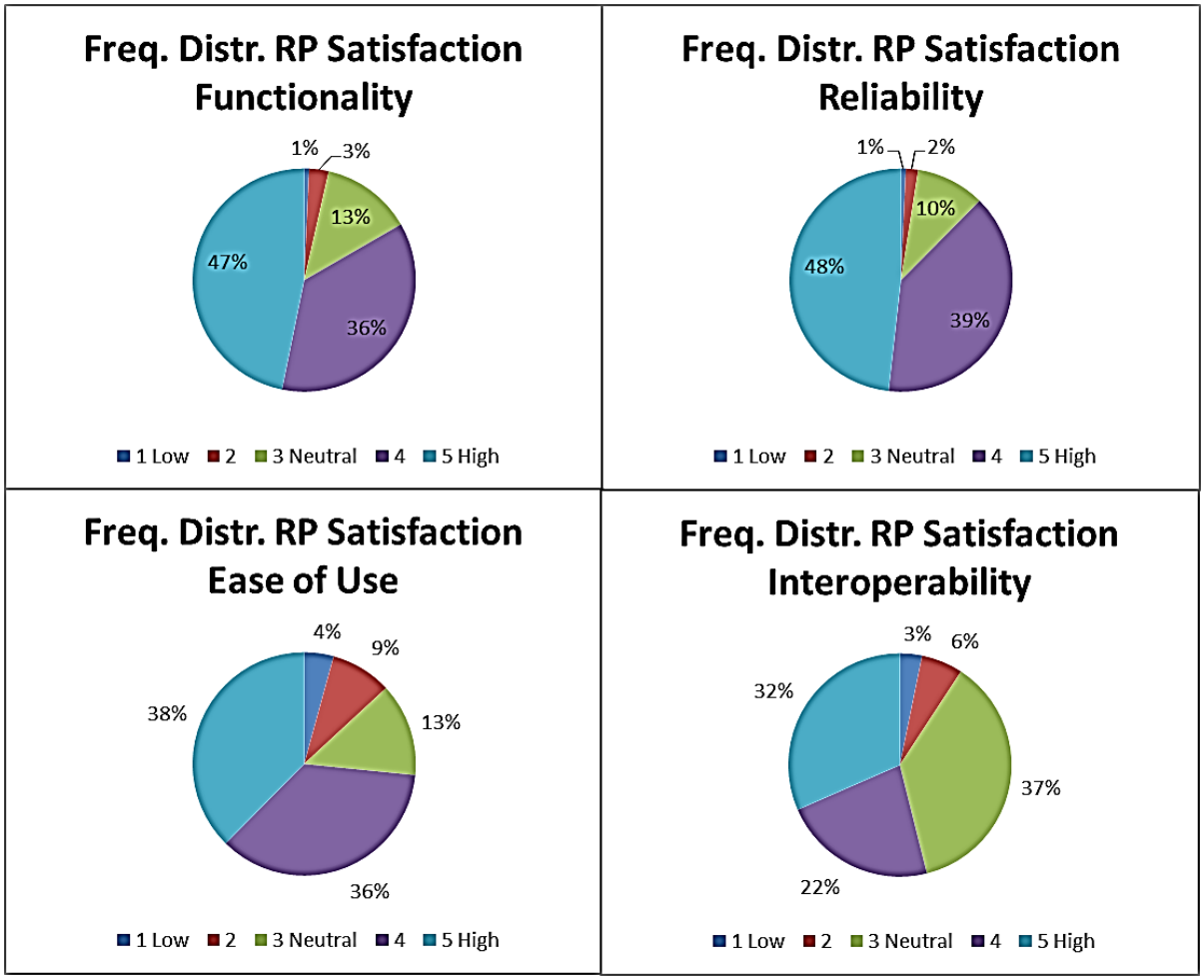
Simple t-tests were run to determine if there was a difference in satisfaction scores between faculty and staff as well as differences in satisfaction scores between Windows operating system respondents and non-Windows respondents. The results indicate that staff members were more satisfied with functionality and ease of use in regards to email services than faculty. The results also indicate that Windows users were more satisfied with email services when it came to functionality, reliability, and ease of use than non-Windows users.

Difference in Mean Satisfaction Faculty vs. Staff		
	Faculty	Staff
Functionality Sig = .0043	4.42	4.55
Ease of Use Sig = .0002	4.35	4.53

Difference in Mean Satisfaction Windows vs. Other		
	Windows	Other
Functionality Sig < .0001	4.57	4.16
Reliabillity Sig < .0001	4.51	4.21
Ease of Use Sig < .0001	4.54	4.14

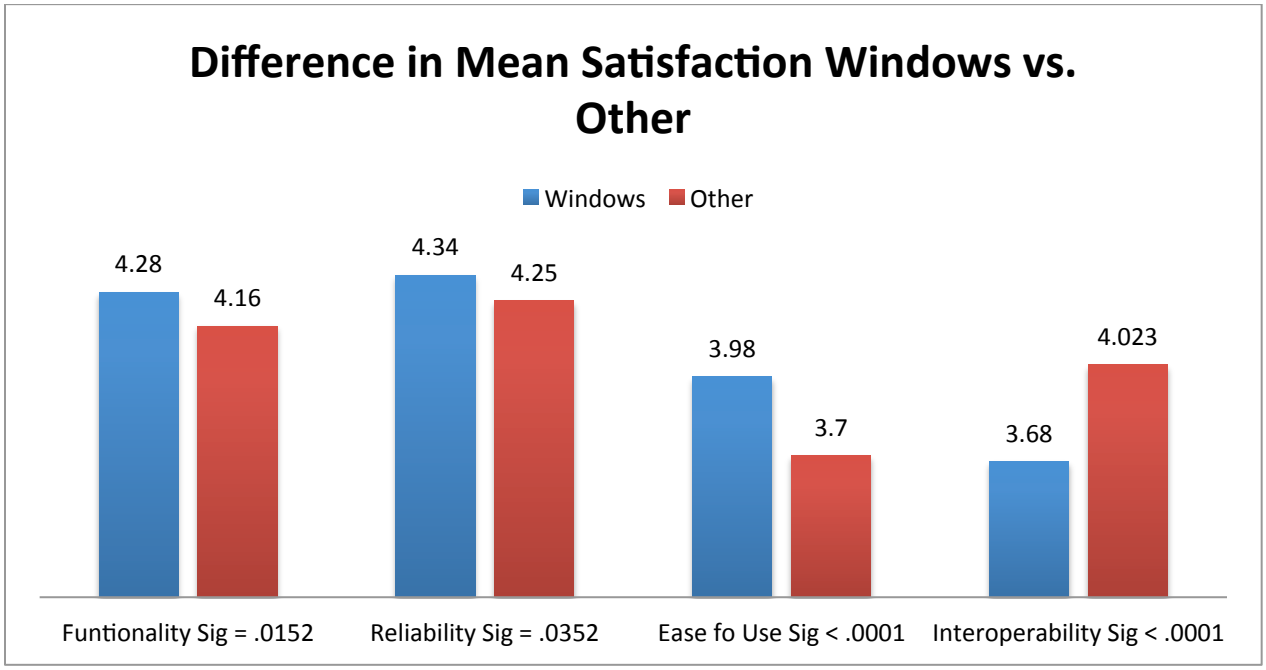
Software Analysis: Ramport

Ramport is another enterprise based system that is utilized by faculty, staff and students alike. The software is used as a gateway by end users to access Blackboard, email services, registration services, financial aid, library services and a multitude of other applications. Additionally, each Ramport account is user specific and can be customized to the user's preferences for displayed content as well as serve as communication tool for campus wide or department wide announcements. Only three respondents out of the 296 total responses indicated that they did not utilize Ramport. The survey asked respondents to rate their satisfaction for Ramport in regards to the concepts of functionality, reliability, ease of use, and interoperability. The scores were combined and averaged to give an overall score with each concept given equal weight. Responses were filtered to include only respondents who responded that they used Ramport and successfully answered all measurement questions regarding Blackboard. Based on the filtering criteria, 282 responses out of 296 were deemed valid. The frequency distributions and summary statistics for Ramport satisfaction on displayed on the following page.



Summary Statistics for Ramport Satisfaction					
	Functionality	Reliability	Ease of Use	Interoperability	Average
Sample Size	282	282	282	282	282
Sample Mean	4.2589	4.3262	3.936	**3.730**	4.0629
Sample Std Dev	0.8439	0.7823	1.117	1.070	0.7949
Confidence Level	95.0%	95.0%	95.0%	95.0%	95.0%
df	281	281	281	281	281
Lower Limit	4.1599	4.2345	3.805	**3.605**	3.9698
Upper Limit	4.3578	4.4179	4.067	**3.856**	4.1561

The results indicate that satisfaction with Ramport is high with an overall mean score in excess of four. Summary statistics reveal that the weakest performing category for Ramport in is in regards to the concept of interoperability. Hypothesis testing revealed that Windows users were more satisfied in functionality, reliability, and ease of use than non-Windows user while non-Windows users were more satisfied than Windows in regards to interoperability for Ramport.

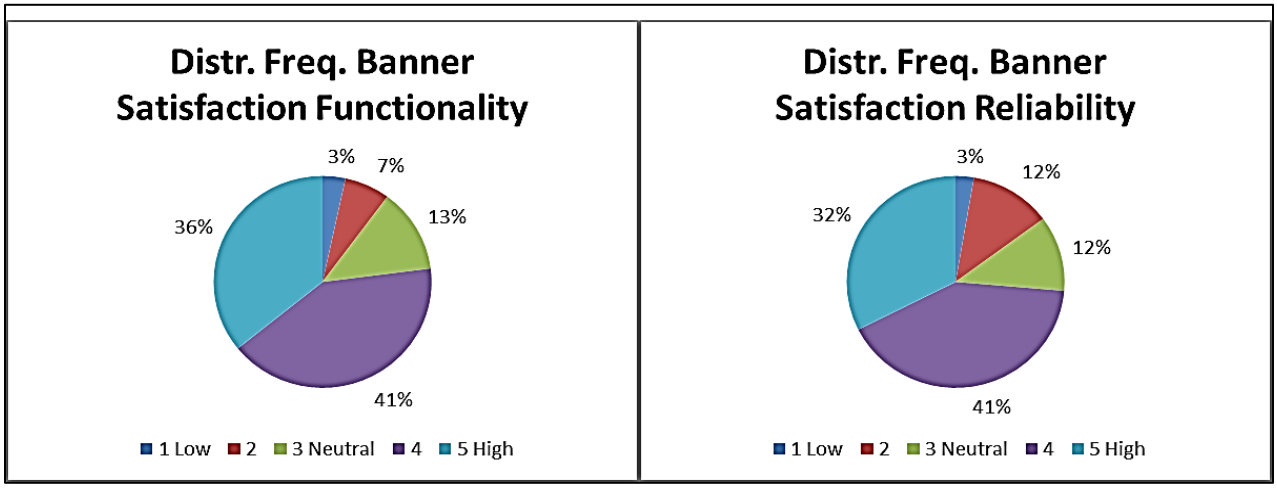


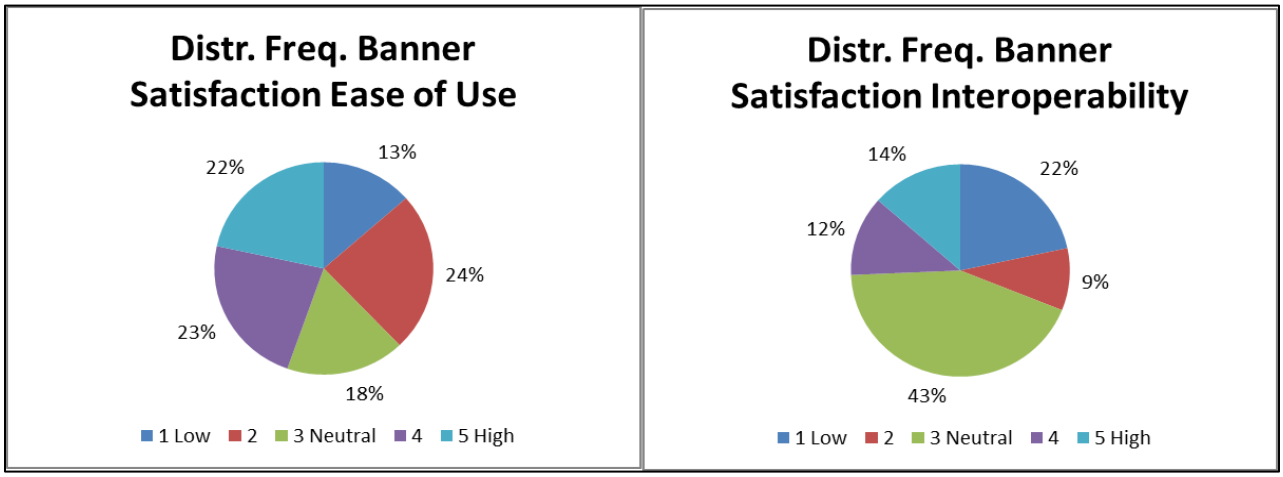
Additional hypothesis testing indicated that staff was more satisfied in regards to functionality than faculty.

Difference in Mean Satisfaction Faculty vs. Staff			
		Faculty	Staff
Functionality	Sig = 0.030	4.19	4.31

Software Analysis: Banner

Banner is an enterprise resource planning system utilized by administrative personnel and department heads to conduct day to day operations on the business end of university functions. Respondents were asked to indicate if they use Banner; 156 out of 296 respondents indicated that they use Banner with 18 indicating they are faculty and 136 indicating they are staff. Filtering criteria was applied to include only those respondents that indicated they have used Banner and successfully answered all measurement questions regarding satisfaction for Banner. Based on filtering criteria, 148 responses were deemed valid. The distribution frequencies and summary statistics follow.





Summary Statistics for Satisfaction Regarding Banner					
	Functionality	**Reliability**	**Ease of Use**	**Interoperability**	**Average Score**
Sample Size	148	148	148	148	148
Sample Mean	3.993	3.885	3.149	2.865	3.4730
Sample Std Dev	1.033	1.079	1.367	1.271	0.9729
Confidence Level (Mean)	95.0%	95.0%	95.0%	95.0%	95.0%
Degrees of Freedom	147	147	147	147	147
Lower Limit	3.825	3.710	2.927	2.658	3.3149
Upper Limit	4.161	4.060	3.371	3.071	3.6310

The distribution frequencies and summary statistics table reveal that Banner performed well in the concepts of functionality and reliability with average scores in excess of the neutral rating of three. Banner performed noticeably worse in the areas of ease of use (mean = 3.149) and interoperability (mean = 2.865). Satisfaction in interoperability for Banner had the worst score out of all satisfaction measurements in this study.

Network and Hardware Analysis: Overview

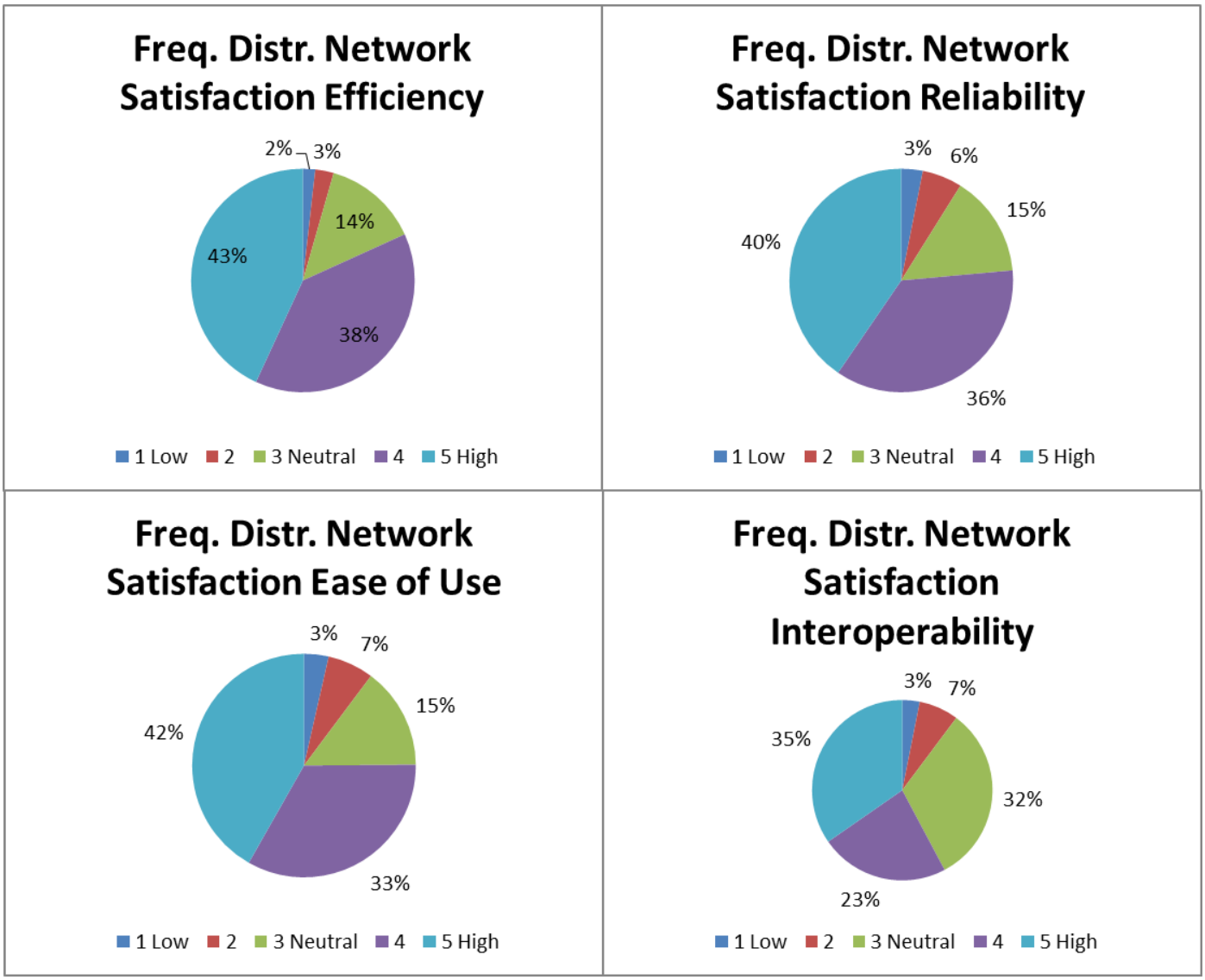
In addition to providing and maintaining software services such as Ramport, Banner, Blackboard, and email services, the department is also in charge of maintaining computer hardware and equipment throughout the university. The department is also responsible for the campus communication infrastructure by providing and maintaining internet access campus wide via wired and wireless networks. The survey measured satisfaction of users of the ASU network based on the concepts of network efficiency (functionality), network reliability (reliability), ease of connecting to the network (ease of use), and ability to connect on multiple platforms (interoperability).

Hardware satisfaction concentrated on technology equipped classrooms and meeting spaces and satisfaction was measured in regards to the concepts of ease of use, reliability of equipment, quality and condition of the equipment, and the ability to connect equipment to multiple platforms. The metrics used to measure satisfaction in these concepts consisted of asking respondents to rate the satisfaction on a scale of one (low) to five (high) with three as neutral.

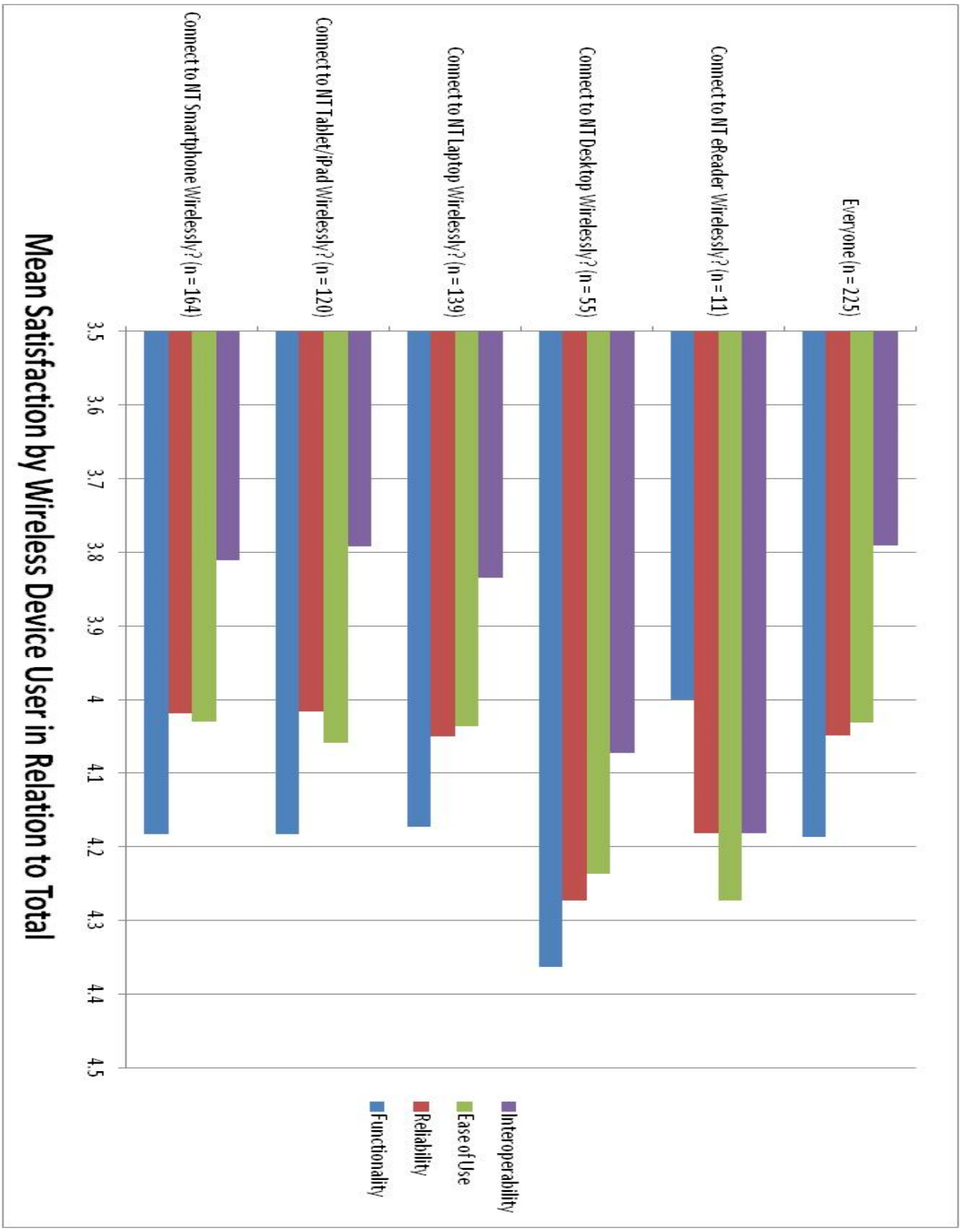
Network Analysis

Respondents were asked if they utilized the Angelo State University local area network, either wired or wireless. Out of 296 respondents, 244 indicated that they used the ASU local area network. Twelve respondents indicated they were not aware of the service, 33 respondents indicated that they never needed to use the service and seven indicated other reasons for not using the network. The survey asked respondents to rate their satisfaction on the concepts of network efficiency, network reliability, ease of use in connection, and ability to conduct work on multiple platforms. Filtering criteria included only those respondents that indicated they used the ASU local area network and successfully answered all measurement questions. Based on filtering criteria, 225 responses were deemed valid. The scores were averaged to create an overall score for each respondent with each category being weighted equally. The summary statistics table below and frequency distributions on the following page illustrate the results. Satisfaction regarding the ASU local area network was high with average scores in each area and overall in excess of four (except for interoperability, mean = 3.791).

Summary Statistics for Network Satisfaction					
	Efficiency	Reiliability	Ease of Use	Interoperability	Average
Sample Size	225	225	225	225	225
Sample Mean	4.1867	4.049	4.031	3.791	4.0144
Sample Std Dev	0.8968	1.032	1.075	1.092	0.9070
Confidence Level (Mean)	95.0%	95.0%	95.0%	95.0%	95.0%
Degrees of Freedom	224	224	224	224	224
Lower Limit	4.0688	3.913	3.890	3.648	3.8953
Upper Limit	4.3045	4.184	4.172	3.935	4.1336

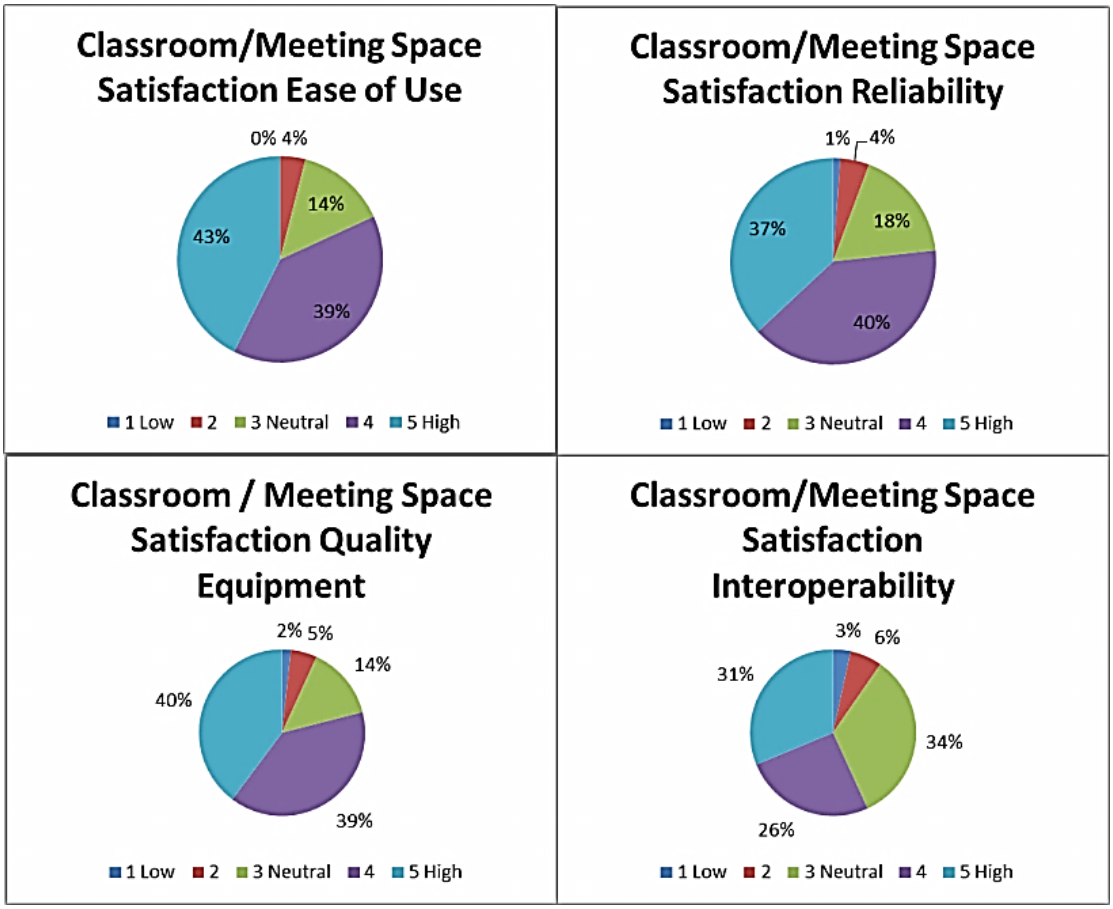


An analysis was performed to see the levels of satisfaction with the university local area network in relation to respondents who connected to the network (NT) wirelessly. The figure on the following page shows the average mean score for satisfaction for all respondents and categorized by wireless device user.


Mean Satisfaction by Wireless Device User in Relation to Total
Everyone (n = 225)
Connect to NT eReader Wirelessly? (n = 11)
Connect to NT Desktop Wirelessly? (n = 55)
Connect to NT Laptop Wirelessly? (n = 139)
Connect to NT Tablet/iPad Wirelessly? (n = 120)
Connect to NT Smartphone Wirelessly? (n = 164)
3.5
3.6
3.7
3.8
3.9
4
4.1
4.2
4.3
4.4
4.5
Interoperability
Ease of Use
Reliability
Functionality

Technology Equipped Classrooms and Meeting Spaces

Respondents were asked to rate their satisfaction of technology equipped classrooms and meeting spaces. The survey measured respondents' satisfaction in regards to the concepts of ease of use of the equipment, reliability of the equipment, quality and condition of the equipment, and ability to connect ASU equipment to multiple platforms. One hundred eighty-seven respondents answered that they have utilized technology equipped classrooms or meeting spaces. Three respondents indicated that they were not aware of the service, 90 respondents indicated they never needed the service and 13 specified other reasons for not responding. Six respondents declined to answer this question.



Of the 90 respondents who responded that they never needed the service, 80 respondents were staff members, five were faculty members and five respondents declined to specify their role. Filtering criteria included only those respondents who answered yes to using technology equipped classrooms or meeting spaces and successfully answered all measurement questions regarding satisfaction. Based on filtering criteria, 176 responses were deemed valid. The scores were averaged to create an overall score for each respondent with each category being weighted equally.

Summary Statistics for Classroom/Meeting Space Satisfaction					
	Ease of Use	Reliability	Q&C Equipment	Interoperability	Average
Sample Size	176	176	176	176	176
Sample Mean	4.2045	4.0682	4.1023	3.750	4.0313
Sample Std Dev	0.8303	0.9108	0.9446	1.072	0.8369
Confidence Level (Mean)	95.0%	95.0%	95.0%	95.0%	95.0%
Degrees of Freedom	175	175	175	175	175
Lower Limit	4.0810	3.9327	3.9617	3.591	3.9067
Upper Limit	4.3281	4.2037	4.2428	3.909	4.1558

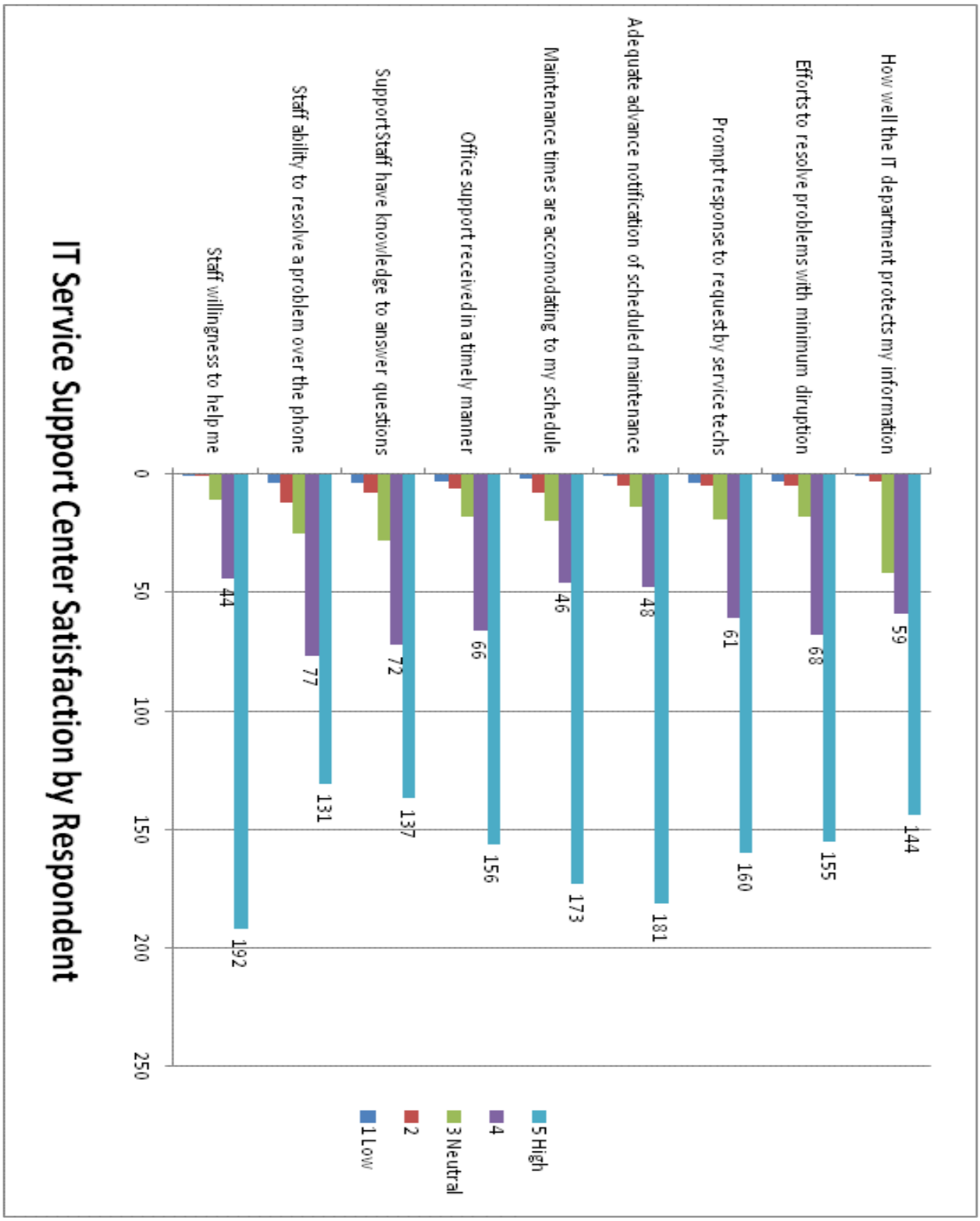
Measurements of respondents' satisfaction for classroom and meeting spaces reveal that the IT department performed well across all categories with an overall average score in excess of four (except for interoperability, mean = 3.75).

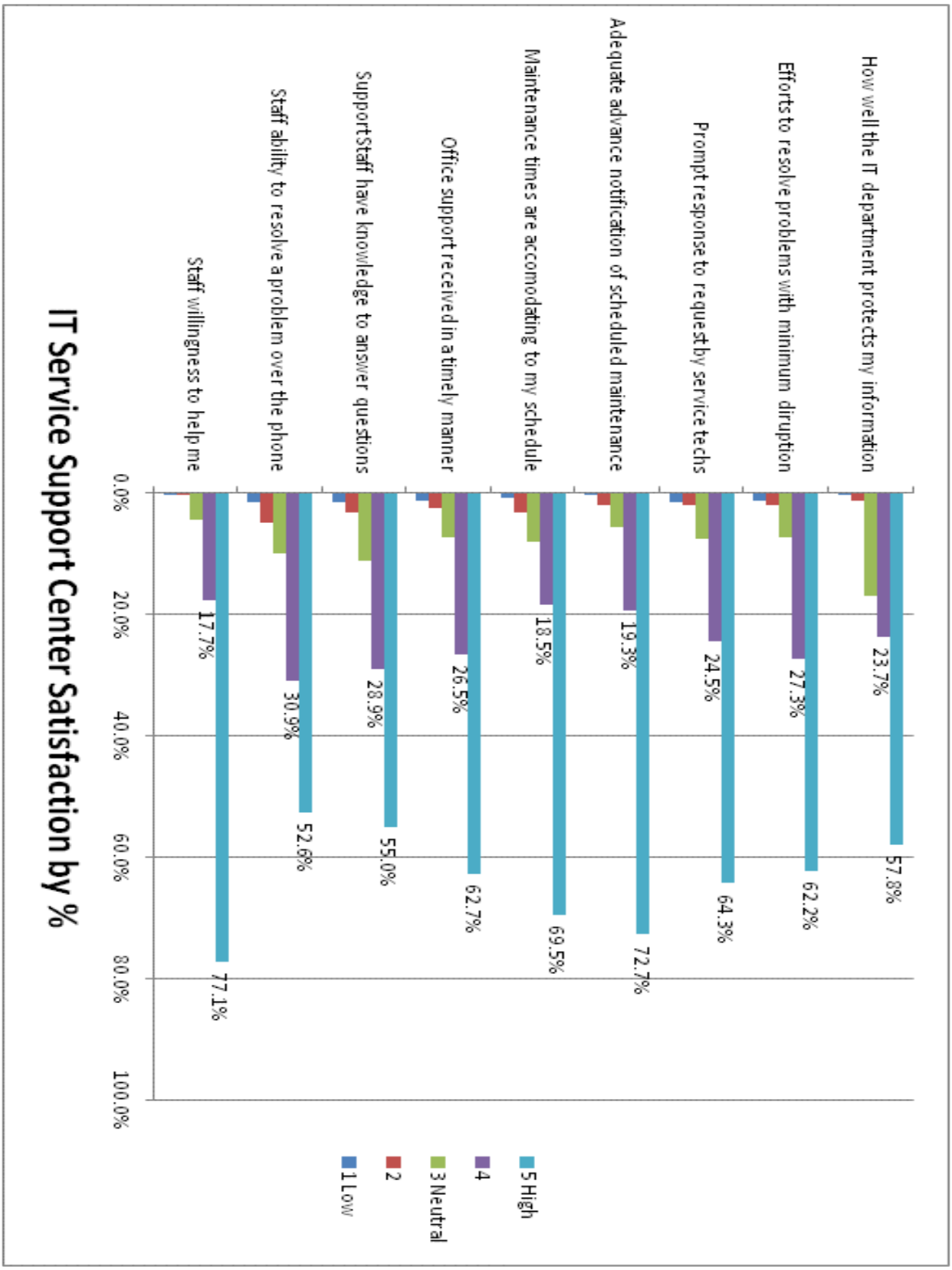
ITSSC, IT Project Office, IT Training Services: Overview

The IT department at Angelo State University provides support services to faculty and students in all areas regarding information technology. These support services include technical support via phone, e-mail, web and face-to-face interaction. In addition to support services, the department also has an IT Project office that coordinates and supervises major projects involving IT and infrastructure. The department also provides training services to staff, faculty, and students in applications, software usage, and equipment operation. The survey measured end user satisfaction in regards to these areas utilizing a series of customer satisfaction measurements.

IT Service Support Center (ITSSC) Analysis

Respondents were asked to identify if they have utilized the IT Service Support Center via walk-in, phone, e-mail or web communication. Out of 296 responses, 270 respondents indicated that they have used the ITSSC in some way. Two respondents indicated that they were not aware of the service, 16 respondents indicated they have never needed to use the service and seven respondents declined to answer ITSSC questions. Filtering criteria was used to include only those respondents who answered yes to using the ITSSC and successfully answered all measurement questions regarding satisfaction for this service. Based on filtering criteria, 249 responses were deemed valid. Respondents were asked to rate their satisfaction on a scale of one (low) to five (high) with three being neutral in various areas of customer service. The results showed that respondents were very satisfied with the ITSSC with most responses indicating a rating of four or better. The results are displayed on the following pages.

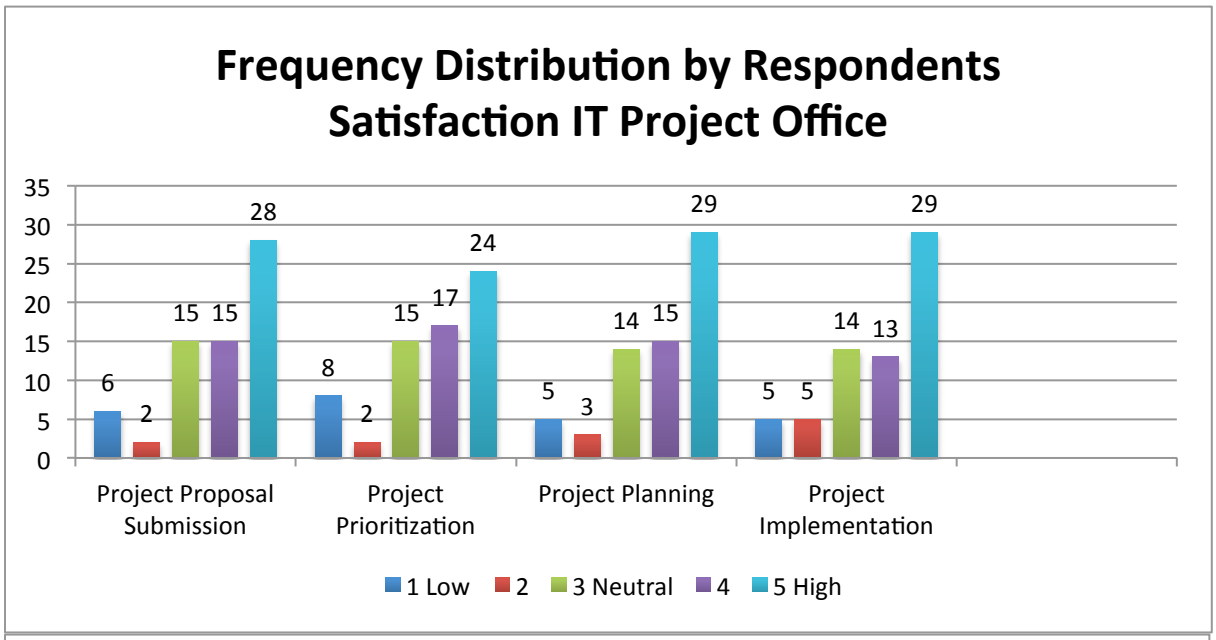

IT Service Support Center Satisfaction by Respondent
How well the IT department protects my information
Efforts to resolve problems with minimum disruption
Prompt response to request by service techs
Adequate advance notification of scheduled maintenance
Maintenance times are accomodating to my schedule
Office support received in a timely manner
Support Staff have knowledge to answer questions
Staff ability to resolve a problem over the phone
Staff willingness to help me
0
50
100
150
200
250
59
68
61
48
46
66
72
77
44
144
155
160
181
173
156
137
131
192
5 High
4
3 Neutral
2
1 Low

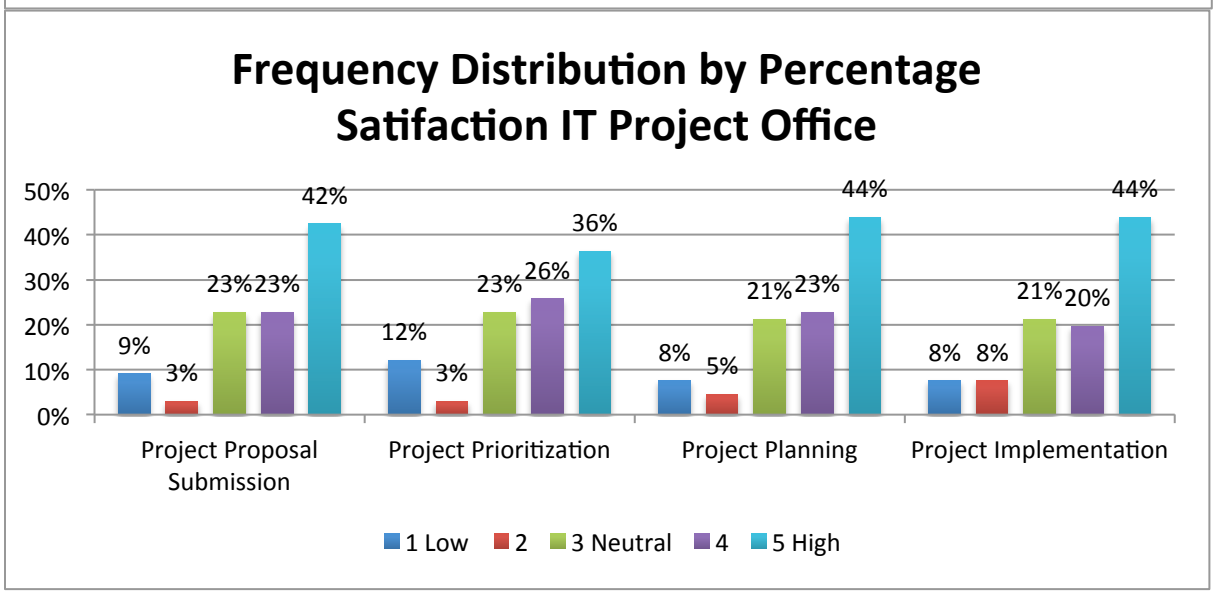

IT Service Support Center Satisfaction by %
How well the IT department protects my information
Efforts to resolve problems with minimum diruption
Prompt response to request by service techs
Adequate advance notification of scheduled maintenance
Maintenance times are accomodating to my schedule
Office support received in a timely manner
SupportStaff have knowledge to answer questions
Staff ability to resolve a problem over the phone
Staff willingness to help me
23.7%
27.3%
24.5%
19.3%
18.5%
26.5%
28.9%
30.9%
17.7%
57.8%
62.2%
64.3%
72.7%
69.5%
62.7%
55.0%
52.6%
77.1%
0.0%
20.0%
40.0%
60.0%
80.0%
100.0%
5 High
4
3 Neutral
2
1 Low

IT Project Support Office

Respondents were asked to indicate if they utilized the IT Project Office. Out of 296 respondents 66 respondents indicated that they had used the project office. Out of the 230 respondents who did not use the project office, 54 indicated they were not aware of the service, 148 responded as never needing the service, and 26 declined to answer or cited other as a reason.

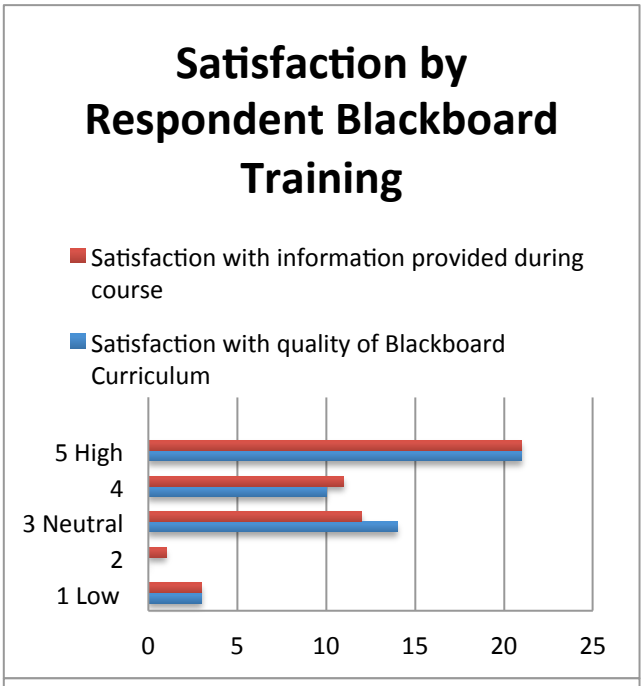
Filtering criteria was used to include only those respondents that indicated they used the IT project office and successfully answered all measurements regarding satisfaction. Respondents were asked to rate their satisfaction on a scale of one (low) to five (high) with three as neutral for a set of questions regarding processes at the IT project office. The frequency distributions by count and percentage are displayed on the following page.

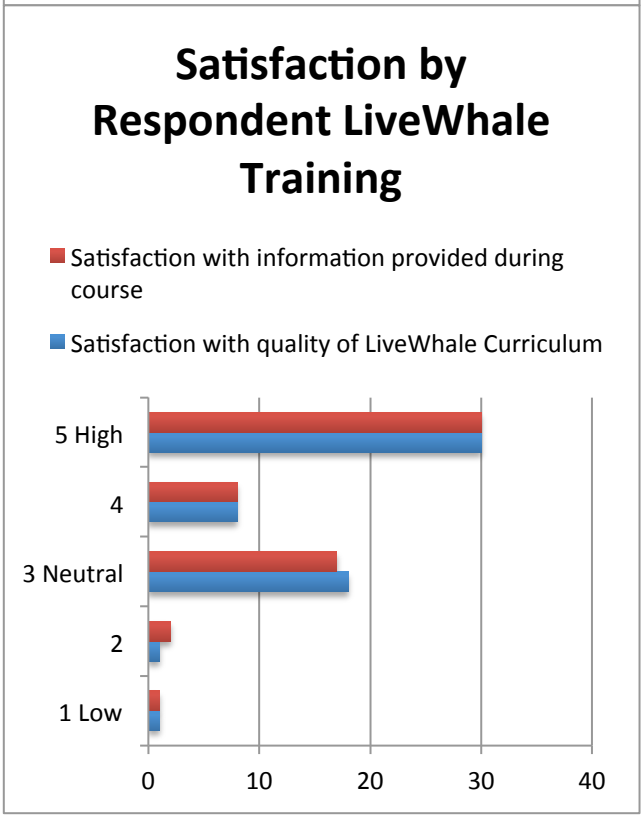

Frequency Distribution by Respondents Satisfaction IT Project Office
35
30
25
20
15
10
5
0
6
2
15
15
28
8
2
15
17
24
5
3
14
15
29
5
5
14
13
29
Project Proposal Submission
Project Prioritization
Project Planning
Project Implementation
1 Low
2
3 Neutral
4
5 High


Frequency Distribution by Percentage Satifaction IT Project Office
50%
40%
30%
20%
10%
0%
9%
3%
23%
23%
42%
12%
3%
23%
26%
36%
8%
5%
21%
23%
44%
8%
8%
21%
20%
44%
Project Proposal Submission
Project Prioritization
Project Planning
Project Implementation
1 Low
2
3 Neutral
4
5 High

IT Training Services

Respondents were asked to rate their level of satisfaction regarding training services for Blackboard and LiveWhale. Two questions asked respondents to indicate their satisfaction regarding training curriculum and quality of information provided in training courses. Of the 296 responses received, 102 indicated they used IT training services. Thirty-two respondents indicated they were not aware of the service while 130 indicated they never needed to use the service and 19 indicated other reasons for not using training services. Filtering criteria was applied to include only those respondents who have participated in the training course and successfully answered all measurements questions. After filtering criteria was applied, 48 responses were determined be valid for Blackboard and 58 responses were deemed to be valid for LiveWhale.





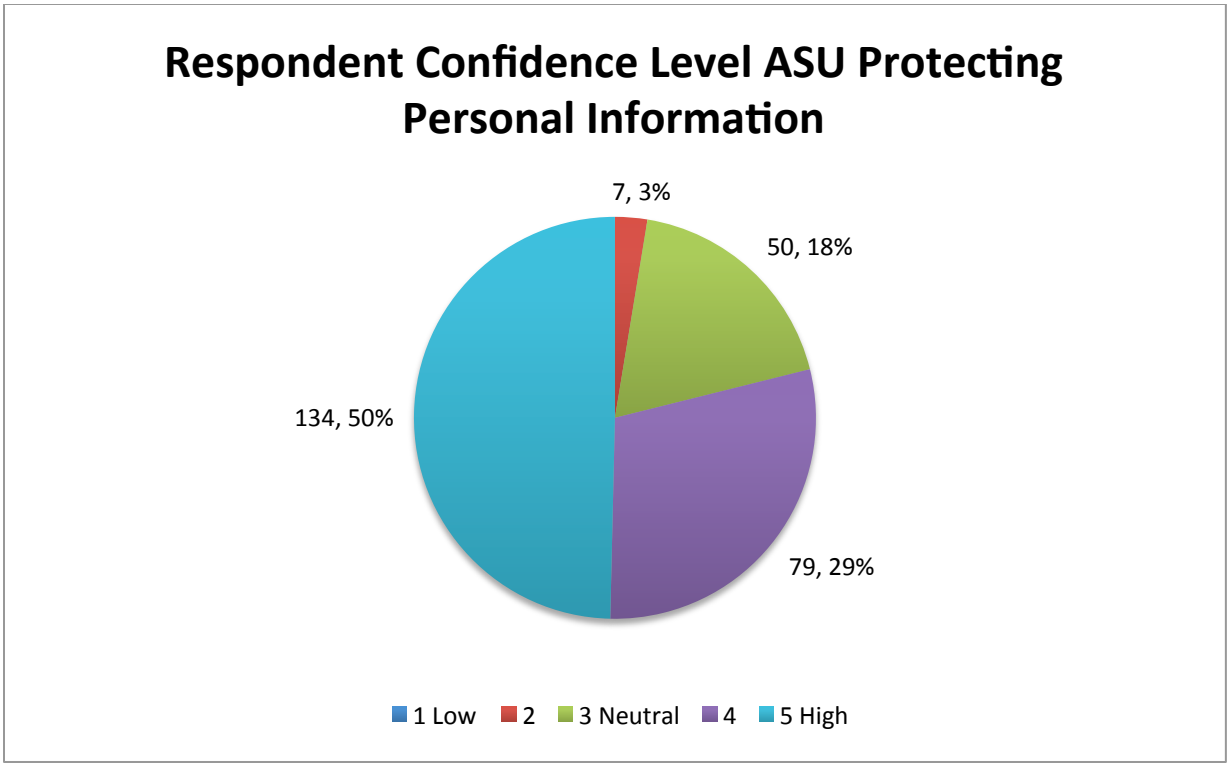
Change in Satisfaction

Respondents were asked to rate the extent of change in their level of satisfaction for all categories where satisfaction was measured. The intent of this measurement was to measure respondents' perception of change in service performance over the course of the last twelve months. The main objective was to gain insight as to the rate of change in satisfaction so that the IT department can address areas where a decrease in satisfaction was occurring. Respondents were asked to rate their change in satisfaction on a scale of one to five with one as greatly decreased, five as greatly increased and three as neutral. A t-test was performed to test if these scores were significantly different from the neutral rating of three. With critical p-value scores of $p<.0001$, we can conclude that the marginal rate of satisfaction increased based on respondents' answers.

Hypothesis Test (One-Sample)	Blackboard	Email	Ramport	Banner	Equipment	Network	ITSSC	IT Proj Office	Training
Sample Size	60	111	112	71	107	110	110	60	72
Sample Mean	3.5167	3.6937	3.6250	3.4507	3.8037	3.7182	3.9727	3.6667	3.7778
Sample Std Dev	0.7477	0.8717	0.9017	0.8749	0.8626	0.9100	0.9032	0.8570	0.8757
Hypothesized Mean	3	3	3	3	3	3	3	3	3
Alternative Hypothesis	> 3	> 3	> 3	> 3	> 3	> 3	> 3	> 3	> 3
Standard Error of Mean	0.0965	0.0827	0.0852	0.1038	0.0834	0.0868	0.0861	0.1106	0.1032
Degrees of Freedom	59	110	111	70	106	109	109	59	71
t-Test Statistic	5.3526	8.3842	7.3355	4.3409	9.6378	8.2773	11.2955	6.0256	7.5366
p-Value	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Null Hypoth. at 10% Significance	Reject	Reject	Reject	Reject	Reject	Reject	Reject	Reject	Reject
Null Hypoth. at 5% Significance	Reject	Reject	Reject	Reject	Reject	Reject	Reject	Reject	Reject
Null Hypoth. at 1% Significance	Reject	Reject	Reject	Reject	Reject	Reject	Reject	Reject	Reject

Additional Request for Measurement: Confidence in Protecting Privacy

At the request of the IT department, one additional question was added in regards to protecting the personal information of end users. Respondents were asked to rate their confidence on a scale of one (low) to five (high) with three being neutral when it comes to ASU protecting personal information from unauthorized access. According to responses, over 79% indicated a score of four or better. None of the respondents indicated a rating of one (low).



Open Ended Questions: Summary & Trends

Part of the IT satisfaction survey incorporated open-ended questions to allow respondents to pass along information that they thought would be valuable to the IT department. There were five major open-ended questions, one at the end of each section, as well as open response fields to allow users to identify why they do not use a product or service.

The first of the open ended questions was "Please include any additional comments you wish to share with us regarding computer software used by Angelo State University." This question had 66 responses out of 296 possible. There were a variety of different answers to this section ranging from "Excellent support team" to "Need user friendly programs/software." However, there was a recurring trend that many of the responses indicated dissatisfaction with Banner. There were two main issues that were mentioned in regards to Banner. The first one dealt with Banner's inability work well with Macintosh based operating systems (Mac) and the other involved training for Banner.

The second of the open ended questions asked "Please include any additional comments you with to share with us regarding the ASU network or ASU IT equipment." This question had 39 responses out of 296. The responses for the most part were positive, but there were recurring themes regarding bandwidth size and speed of the wireless network. Additionally, there were concerns mentioning wireless network range and areas on the campus were there was no wireless signal detected, "holes in the network".

The third of the open ended questions asked "Please include any additional comments you wish to share with us regarding IT Support Services." This question had 39 responses out of 296 possible. The majority of the comments for IT support services were very positive. The only

negative responses were in regards to the quality and availability of technical support after regular work hours.

The forth of the open ended questions asked "What the IT Department does well?" This section had the highest response rate with 135 out of 296 respondents providing feedback. The responses were generally upbeat. The main positive topics that were brought up were the quick response time and the customer service provided by personnel responding to service requests.

The last of the open ended questions asked "Please tell us what you would change about the IT department." This section had multiple recurring themes in the types of responses received. This question had the second highest response rate with of 97 out of 296 respondents answering this question. The responses in this category were more varied. The first common theme was in regards Apple Macintosh (Mac) based operating systems. Many respondents expressed a desire to see more Mac computers on campus and better Mac support from the IT support staff. The second recurring theme was a common dislike for Banner. Respondents wanted to see Banner either replaced or made more user-friendly. The third recurring theme was in regards to the appearance of IT staff and the scheduling of service orders. Many respondents made remarks about having the IT staff wear a uniform of some sort (such as IT Department logo shirts) or clearly display their ID badges so that they can easily be identified. There were multiple comments that staff and faculty were unable to tell the difference between IT personnel and other students. Respondents also expressed a concern in regards to scheduling IT staff to work on problems while the client is present. There were multiple complaints where individuals had issues with IT personnel coming to work on a problem when the client was absent.

Additional open responses questions involved asking respondents why they had not utilized a particular service or software. While most of the responses were in line with expectations (i.e. no

need to use the service or not aware of service given their role or department), there was higher recurrence of open response answers to IT training services. The responses had a common theme of a lack of availability of training courses or that the time and place of training courses were not conducive to their schedules.

Conclusions, Limitations, Recommendations

The survey was designed to be a comprehensive measurement of satisfaction for users of the ASU IT Department's services. Taking into consideration the results of last year's survey, we ran preliminary statistical testing in regards to software provided by the department to determine if there was a continued difference in satisfaction means among users of different operating systems and between staff and faculty. Our testing revealed that, based on the survey data, significant differences in satisfaction continue to exist between these groups. Local area network and hardware measurements revealed that there were lower average scores in the field of interoperability. Results in the IT Support Services Center category indicated that the ITSSC continues to provide excellent customer service to its clients. Respondents indicated that clients of the IT project office were, for the most part, satisfied. The exception to this was lower satisfaction scores in the area of project prioritization processing.

There are some key limitations to this study that need to be acknowledged. One limitation is in regards to the question regarding interoperability. The original intent of this question was to gauge client satisfaction in the ability to operate applications, programs, and connect to equipment and the local area network using devices other than desktop computers. This area of measurement was consistently rated as neutral indicating that the question may have not been defined properly or may have been non-applicable to many respondents. Additionally, this category experienced the highest occurrence of non–response further supporting this idea. If this measurement is to be utilized again, it is suggested that a better definition be utilized as well as the option "N/A".

A second limitation was in the length of the survey. As the survey progressed, the incidence of non-response increased, indicating respondents dropping out of the survey. While the survey

utilized this year was approximately one-third the length of last year's survey, we could still see evidence of participant fatigue towards the end of the survey. Further satisfaction surveys should: 1) be less comprehensive, concentrating instead on a reduced number of categories to minimize respondent fatigue and 2) prioritize subject matter, placing higher importance categories at the beginning of the survey so as to ensure capture of that data prior to fatigue and non-response setting in.

Taking these limitations into consideration, our recommendations are as follows:

1) Further study into the use of Blackboard, Ramport, email, and Banner should be performed to identify nuances that occur when users are utilizing different operating systems as well as non-traditional devices such tablets, smart phones, and e-readers.
2) The IT department should consider incorporating a more uniform dress code (such as department polo shirts, or conspicuous ID badges) in order to make staff more identifiable.
3) Based on recurring themes in the open response section, analysis should be done in regards to Banner software. There were recurring trends in the open response section that indicated dissatisfaction with both Banner and Banner training.
4) Based on recurring themes in the open response section, the department may want to expand the availability and expertise of support for service requests that occur outside normal operating hours.
5) The highest occurrence of not being aware of the services occurred in the field of the IT Project Office. This may have occurred primarily because not all respondents may have access to the IT Project Office if it is used primarily used by decision maker clients as opposed to client users in general. Regardless, the results indicate that there is possibility

that the university should expand awareness efforts in regards to what the IT Project Office is and what they do.

6) Based on open responses, it is suggested that the department look into increasing the availability of training courses that are more accommodating to client schedules.
7) The IT department may want to consider incorporating some measurement to rate marginal rate of change in satisfaction. T-tests revealed that there was a statistically significant improvement in the change in respondent satisfaction. It is suggested that this type of measurement continue in future surveys as it may serve as an early indicator of changes in client satisfaction.

APPENDIX I

ORIGINAL SURVEY

Section I: Demographics

1) When performing work related tasks, what operating software do you use most often?

Windows / PC	Apple / Mac	Other

2) What is your role at Angelo State University?

Faculty	Staff

3) How many years have you been working with Angelo State University?

_____Years

4) What department are you primarily associated with at Angelo State University?

_____

5) Please indicate which of the following items you own.

Smartphone	Tablet/iPad	Laptop Computer	Desktop Computer	eReader (such as Kindle)
X	X	X	X	

6) Please indicate which of the following items you use when performing ***any work related tasks.***

Smartphone	Tablet/iPad	Laptop Computer	Desktop Computer	eReader (such as Kindle)
X	X	X	X	

Section II: Product Satisfaction

1) Do you use Blackboard?

Yes	No

1a) Please Indicate the reason that best describes why you have not used Blackboard.

I am not aware of the service	I have never needed to use the service	Other

1b) Please indicate your level of satisfaction for the following items regarding Blackboard.

	Low		Neutral		High
Ability to meet my requirements	1	2	3	4	5
Reliability	1	2	3	4	5
Ease of Use	1	2	3	4	5
Ability to operate on multiple platforms (PC, MAC, Smartphone, Tablet, Etc.)	1	2	3	4	5

2) Please indicate your level of satisfaction for the following items regarding ASU E-mail.

	Low		Neutral		High
Ability to meet my requirements	1	2	3	4	5
Reliability	1	2	3	4	5
Ease of Use	1	2	3	4	5
Ability to operate on multiple platforms (PC, MAC, Smartphone, Tablet, Etc.)	1	2	3	4	5

3) Do you use Ramport?

Yes	No

3a) Please Indicate the reason that best describes why you have not used Ramport.

I am not aware of the service	I have never needed to use the service	Other

3b) Please indicate your level of satisfaction for the following items regarding Ramport.

	Low		Neutral		High
Ability to meet my requirements	1	2	3	4	5
Reliability	1	2	3	4	5
Ease of Use	1	2	3	4	5
Ability to operate on multiple platforms (PC, MAC, Smartphone, Tablet, Etc.)	1	2	3	4	5

4) Do you use the ERP Administrative System (also known as Banner)?

Yes	No

4a) Please Indicate the reason that best describes why you have not used Banner.

I am not aware of the service	I have never needed to use the service	Other

4b) Please indicate your level of satisfaction for the following items regarding Banner

	Low		Neutral		High
Ability to meet my requirements	1	2	3	4	5
Reliability	1	2	3	4	5
Ease of Use	1	2	3	4	5
Ability to operate on multiple platforms (PC, MAC, Smartphone, Tablet, Etc.)	1	2	3	4	5

5) OPTIONAL: Please include any additional comments you wish to share with us regarding computer software used by Angelo State University

(Open response Field)

Section III: Hardware/Facilities Resources

1) Do you use the Angelo State University Local Area Network (either wired or wireless)?

Yes	No

1a) Please Indicate the reason that best describes why you have not used the ASU local area network.

I am not aware of the service	I have never needed to use the service	Other

1b) Please indicate your level of satisfaction for the following items regarding network connectivity.

	Low		Neutral		High
Network's ability to meet my requirements with acceptable efficiency	1	2	3	4	5
Reliability of network connection	1	2	3	4	5
Ease of connecting to the ASU local area network	1	2	3	4	5
Ability to connect to the network on multiple platforms (PC, MAC, Smartphone, Tablet, Etc.)	1	2	3	4	5

1c) Please indicate which of the following devices you use to connect wirelessly to the ASU network when on campus?

Smartphone	Tablet/iPad	Laptop Computer	Desktop Computer	eReader (such as Kindle)	None of the above
X	X	X	X	X	X

2) Do you use Angelo State University Technology Equipped Classrooms and/or meeting space?

Yes	No

2a) Please Indicate the reason that best describes why you have not used the ASU technology equipped classrooms and/or meeting space.

I am not aware of the service	I have never needed to use the service	Other

2b) Please indicate your level of satisfaction for the following items regarding the technology equipped classrooms/meeting spaces.

	Low		Neutral		High
Ease of use of equipment in classrooms and/or meeting spaces	1	2	3	4	5
Reliability of equipment in classrooms and/or meeting spaces	1	2	3	4	5
Quality and condition of equipment in classrooms and/or meeting spaces	1	2	3	4	5
Ability to connect ASU Equipment to multiple platforms (PC, MAC, Smartphone, Tablet, etc.)	1	2	3	4	5

3) OPTIONAL: Please include any additional comments you wish to share with us regarding the ASU network or ASU IT equipment

(Open response Field)

Section IV: Support Services

1) Do you use Angelo State University IT Service Support Center (phone support, e-mail, web, or and/or walk-in)?

Yes	No

1a) Please Indicate the reason that best describes why you have not used the ASU IT Service Support Center.

I am not aware of the service	I have never needed to use the service	Other

1b) Please indicate your level of satisfaction for the following items regarding the IT Support Services Center

	Low		Neutral		High
The support staff's willingness to help me	1	2	3	4	5
The support staff's ability to resolve a problem over the phone	1	2	3	4	5
Support staff who have the knowledge to answer my questions about hardware and software	1	2	3	4	5
Receiving office support in a timely manner once a request for service is made to the service center	1	2	3	4	5
The times selected for scheduling network, service, and system maintenance are accommodating to my schedule	1	2	3	4	5
Notifications to customers of scheduled system maintenance times are sufficient	1	2	3	4	5
Service techs providing prompt responses to my request	1	2	3	4	5
Technology price quotes are created in a timely manner	1	2	3	4	5
Support staff's efforts to resolve my issues with as little disruption to my	1	2	3	4	5

work as possible					
How well IT support services is protecting my information	1	2	3	4	5

2) Do you use the ASU IT Project Office?

Yes	No

2a) Please Indicate the reason that best describes why you have not used the ASU IT Project Office.

I am not aware of the service	I have never needed to use the service	Other

2b) Please indicate your level of satisfaction regarding the following items

	Low		Neutral		High
Project proposal submission process	1	2	3	4	5
Project prioritization process	1	2	3	4	5
Project planning process	1	2	3	4	5
Project implementation process	1	2	3	4	5

3) Do you use the IT Training Services?

Yes	No

3a) Please Indicate the reason that best describes why you have not used IT Training Services.

I am not aware of the service	I have never needed to use the service	Other

3b) Please indicate your level of satisfaction regarding the following items.

	N/A		Low		Neutral		High
BlackBoard							
Overall BlackBoard training			1	2	3	4	5

course curriculum							
Quality of the information provided during BlackBoard training courses			1	2	3	4	5
Livewhale							
Overall Livewhale training course curriculum meeting my needs			1	2	3	4	5
Quality of the information provided during Livewhale training courses			1	2	3	4	5

4) OPTIONAL: Please include any additional comments you wish to share with us regarding IT Support Services

(Open response Field)

Section V: Miscellaneous

1) Have you been employed at Angelo State University for at least a year?

Yes	No

1a) Please indicate the extent in your satisfaction in the following areas for the last twelve months

	N/A		Greatly Decreased		About the Same		Greatly Increased
Overall Satisfaction with Blackboard			1	2	3	4	5
Overall Satisfaction with E-mail Service			1	2	3	4	5
Overall Satisfaction with Ramport			1	2	3	4	5
Overall Satisfaction with Banner			1	2	3	4	5
Overall Satisfaction with IT equipment			1	2	3	4	5
Overall Satisfaction with Network Connectivity			1	2	3	4	5
Overall Satisfaction with Support Services			1	2	3	4	5
Overall Satisfaction with IT Project Office			1	2	3	4	5
Overall Satisfaction with Training Services			1	2	3	4	5

2) Please indicate your level of confidence in the following areas.

	Low		Neutral		High
ASU protects my personal information from unauthorized access.	1	2	3	4	5

3) Please tell us what the IT Department does well

(open response field)

4) Please tell us what you change about the IT department

(open response field)

APPENDIX II

E-MAIL SOLICITATIONS

1st e-mail solicitation April 10th 2013:

Dear ASU Faculty and Staff:

We are graduate students in the MBA program here at Angelo State University and part of our Research Methods course taught by Dr. Rex Moody we are conducting a satisfaction survey on behalf of the IT department. For this reason we need your help! Your response to this survey is a vital part of our course grade and the information collected is an invaluable tool for the ASU IT department. It is our mission that it truly represents the entire faculty and staff of Angelo State University and we can't do that without you. Therefore, we appreciate you taking the time out of your busy day to complete this important survey.

All responses are anonymous.

Your thoughts and opinions are very vital to the IT department as a way to determine what can be done to improve services and identify areas that need special attention. This survey will be open from April 9th to April 16th but we appreciate you completing it as soon as possible. If you have any questions or concerns about the survey, please feel free to contact us!
Please follow the link below to complete the survey.
(Insert Link to survey)
Thank you!
Adam Czajkowski
Meagan Davis
Ray Edwards
Jessica Lambert

2nd e-mail solicitation April 12st 2013:

Dear ASU Faculty and Staff:

Your opinion counts! The satisfaction survey on the IT department is still open. If you have already responded to the survey, thank you for participating. If you still have not responded, we request that you go to the link below and answer the survey and let us know your opinion.

All responses are anonymous.

Your response to this survey is a vital part of our course grade and the information collected is an invaluable tool for the ASU IT department. It is our mission that the data we collect will truly represents the entire faculty and staff of Angelo State University and we can't do that without you. Therefore, we appreciate you taking the time out of your busy day to complete this important survey. This survey will be open until close of business April 16th. If you have any questions or concerns about the survey, please feel free to send them to us.

(Insert Link to survey)

Thank you!

Adam Czajkowski
Meagan Davis
Ray Edwards
Jessica Lambert

3rd e-mail solicitation April 15rd 2013:

Dear ASU Faculty and Staff:

There is still time! Make your opinion count! The satisfaction survey on the IT department will close TOMORROW (April 16). If you have already responded to the survey, thank you for participating. If you still have not responded, please take the time to complete this survey right away using the link below.

All responses are anonymous.

Your response to this survey is a vital part of our course grade and the information collected is an invaluable tool for the ASU IT department. It is our mission that the data we collect will truly represents the entire faculty and staff of Angelo State University and we can't do that without you. Therefore, we appreciate you taking the time out of your busy day to complete this important survey. This survey will be open until close of business April 16th but please don't wait! If you have any questions or concerns about the survey, please feel free to send them to us.

(Insert Link to survey)

Thank you for your time!

Adam Czajkowski

Meagan Davis

Ray Edwards

Jessica Lambert

APPENDIX III

RAW SURVEY RESULTS FROM SURVEY MONKEY

(THE FOLLOWING PAGES ARE A SCANNED COPY OF THE RAW SURVEY RESULTS)

(THIS APPENDIX WAS ALSO SENT ELECTRONICALLY AS A SEPARATE ATTACHMENT)