

A Higher Education TechQual+ Study

VCU 2010 Spring Student Technology Satisfaction Survey
for Virginia Commonwealth University



Higher Education TechQual+

Assessing Service Quality for Technology Organizations in Higher Education
<http://www.techqual.org>

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From the Higher Education TechQual+ Project Director

This report is the result of an assessment of technology services conducted at Virginia Commonwealth University. The assessment instrument is being developed through a collaborative effort between multiple institutions of higher education, a project known as the Higher Education TechQual+ Project. The goal of this project is to create a standardized, scientifically valid instrument that assesses the quality of services delivered by technology organizations in higher education, in a way that provides for benchmarks and comparisons between institutions. The results contained within this report are based on this assessment. I hope that the reader finds the results enlightening and helpful in planning, developing, and managing technology services at Virginia Commonwealth University.

The Higher Education TechQual+ Project is modeled on the LibQual+ project developed by the Association of Research Libraries (ARL) in conjunction with the Texas A&M University Libraries. I am grateful to the pioneering work accomplished by the LibQual+ research team, and recognize that their work has truly transformed libraries by creating a culture of assessment within the library practice. It is our hope that the the Higher Education TechQual+ Project will have a similar transformative effect for technology organizations in higher education.

Dr. Timothy M. Chester
Pepperdine University

About the Higher Education TechQual+ Project

The Higher Education TechQual+ Assessment had its origins in a pilot project conducted at Texas A&M University at Qatar in the Spring of 2006. Under the leadership of Dr. Timothy M. Chester, the management team of Information Technology Services (ITS) worked to build an instrument to gather feedback from the TAMUQ community of end users in a way that would provide objective criteria for service and project planning.

They modeled their work on the existing SERVQUAL, and IS SERVQUAL approaches, but paid particular attention to pioneering work by the leadership of Texas A&M University Libraries and their partners from the Association of Research Libraries, who had previously developed the LibQual+ conceptual model and assessment instrument. The LibQual+ conceptual model itself was also based in part on SERVQUAL, a tool used in the private sector to assess the quality of services.

Following the success of the pilot project, a research project was commissioned by Dr. Timothy Chester. The goal of the project is to develop a scientifically reliable and valid instrument that can be adopted by all institutions of higher education to conduct assessments of technology services on their own campuses. The resulting instrument is delivered through a web portal (<http://www.techqual.org>), shielding the participating institutions from the rigors and complexities of survey research.

The Higher Education TechQual+ Assessment is a web-based survey that requires approximately 20 minutes to complete. It asks respondents to provide evaluations regarding minimum expectation levels, desired service levels, and perceived service levels for up to 30 individual types of technology services commonly delivered in higher education.

TechQual+ is a three year project, and will consist of multiple rounds of qualitative and quantitative data collection from participating institutions beginning in the fall of 2006. Using this data, the TechQual+ instrument will be continually refined until the resulting instrument is considered to be scientifically reliable, valid, and universal. The goal of the project is to understand what end users feel that "technology services" really are and then to develop an instrument that allows for the systematic exploration of the quality of these services in a way that is benchmarkable and allows for comparisons across institutions. Funding for the project is being provided by Pepperdine University and by institutions participating in the project.

The TechQual+ project team is grateful for the exceptional work by the staff of the Texas A&M University Libraries as they developed and implemented the LibQual+ process. The success of the TechQual+ project will be due in large part to their pioneering research that produced the LibQual+ instrument.

Project Coordinators for Virginia Commonwealth University

The Higher Education TechQual+ Project is a cooperative project between institutions of higher education. Each participating institution is represented by project coordinators who direct and conduct assessments for their institution.

This assessment was conducted by the project coordinators for Virginia Commonwealth University. The Higher Education TechQual+ project coordinators for this institution are:

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Higher Education TechQual+ Data Analysis Guide

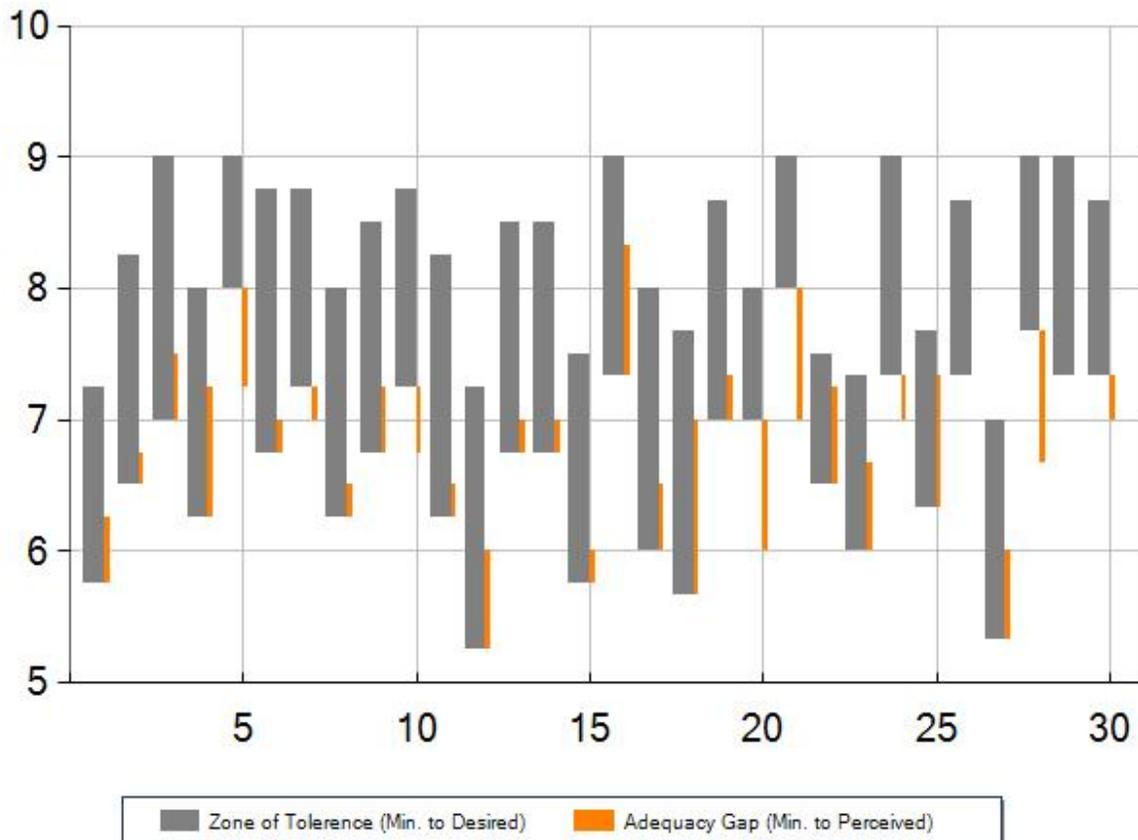
The data from this assessment is presented in multiple ways:

Statistics: For each item in the assessment, both the means and standard deviations are reported, along with the number of respondents (n*) who actually completed this question on the assessment. Respondents who selected 'n/a' or who failed to enter a rating across all three service dimensions (minimum, desired, perceived), or, who failed to enter a response are not included in these statistics (thus the variation in n* across all questions). Additionally, two other important measures are included:

Service Adequacy Gap Score: This score is computed by subtracting the minimum level of service score from the perceived level of service score. A positive number indicates the extent that perceived service levels exceeds end users minimum expectations, a negative number indicates a gap between the perceived performance and minimum expectations.

Service Superiority Gap Score: This score indicates the degree to which end users desired service levels are being met. This score is computed by subtracting the desired level of service score from the perceived level of service score. A positive number indicates the extent that perceived service exceeds end users desired expectations, a negative number indicates a gap between perceived service performance and end users desired expectations.

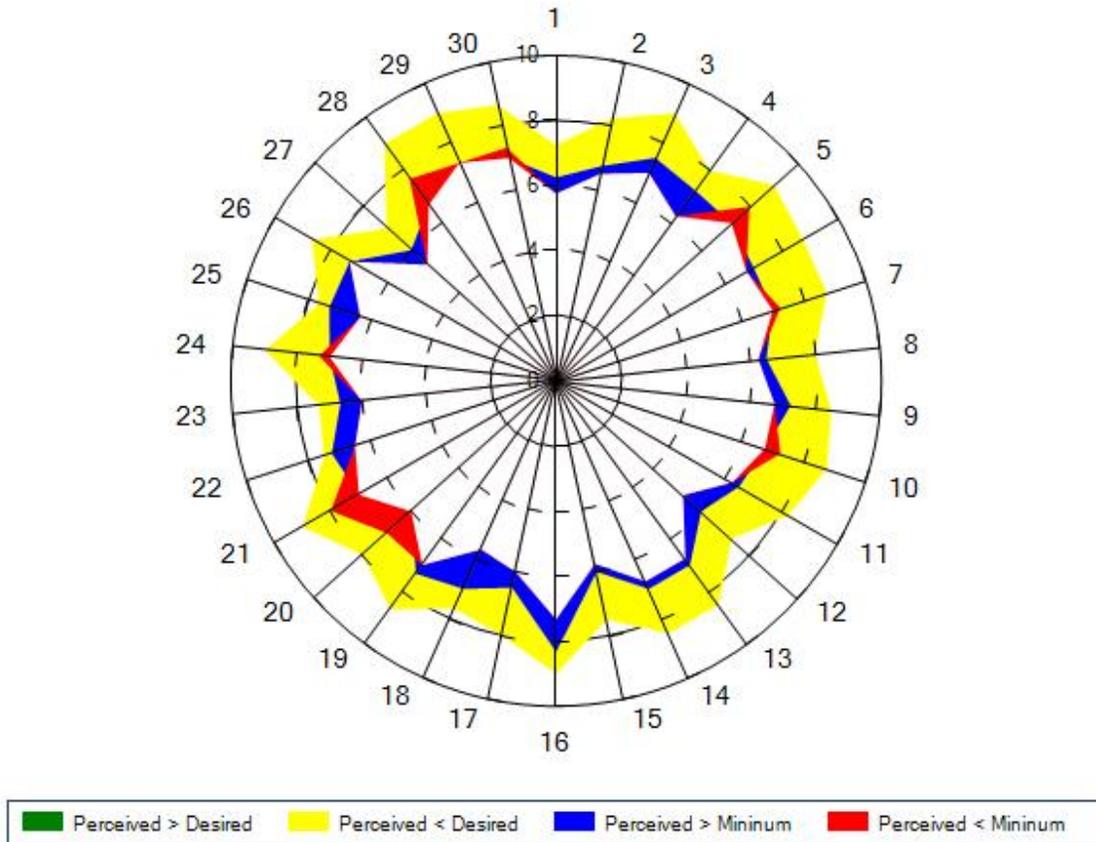
Zones of Tolerance:



For each type of service, expectations are measured as a range as opposed to a single, scaled point. The range between end users minimum expectations and desired expectations constitutes what is known as the "zone of tolerance". A second range, the service adequacy gap range (minimum to perceived) is also

computed and displayed against the zone of tolerance for each respective service dimension. This chart graphically displays the end users range of expectations across all service dimensions and your organizations performance against those expectations.

Radar Charts:



For each dimension of service, the minimum, desired, and perceived quality of service is plotted on a radar chart. This chart is helpful in viewing how each data point is related to the overall service dimension as well as to other service dimensions. The one to nine (1-9) scale is plotted along the y axis of the chart, and each 'spoke' represents one dimension of service. The colors green, yellow, blue, and red are used to express the perceived service levels against end users range of expectations (or, zones of tolerance).

About this Higher Education TechQual+ Assessment

This assessment consisted of multiple questions grouped together into separate focus areas. The focus areas for this assessment were designed to assess these categories of services:

Connectivity & Access

Measures service quality of network access and the ability to access online services

Technology & Technology Services

Measures service quality of technology services such as software applications or classroom technology

The End User Experience

Measures service quality of training, technology support, and the end user experience

Each of these focus areas includes separate questions that refer specifically to service dimensions on the Virginia Commonwealth University campus corresponding to each focus area. For each question, respondents are asked to rate the service dimension in three ways based on a rating scale (1 is lowest, 9 is highest). Respondents are requested to indicate their minimum service level expectation, desired service level expectation, and perceived service performance for each statement:

Minimum Service Level Expectation - the number that represents the **minimum level of service** that the respondent finds acceptable. If a respondent has minimal expectations for the statement, his or her rating is typically closer to the lower end of the rating scale. If the respondent has higher expectations, the rating is typically closer to the higher end of the rating scale.

Desired Service Level Expectation - the number that represents the level of service that the **respondent personally wants**. The respondent selects a rating that represents the level of services he or she desires.

Perceived Service Performance - the number that represents the level of service that the respondent **believes is currently provided**. This rating is typically considered in light of the minimum and desired ratings that were previously selected. Generally speaking, this rating typically falls between the minimum and desired service level ratings. However, if the respondent feels that the actual performance is below the minimum service levels, the rating is equal to or below their minimum service level rating. If the respondent feels that the actual performance exceeds the desired expectations, the rating is typically equal to or greater than the desired service level rating.

Focus Areas and Service Dimensions for This Assessment

Below is a list of the Higher Education TechQual+ focus areas and service dimensions for this assessment.

Connectivity & Access

When it comes to...

Having adequate capacity (speed, bandwidth) when using the wired network

Having adequate capacity (speed, bandwidth) when using the wireless network

Having wireless network coverage in all the areas that are important to me as a faculty, student, or staff member

Having a university network that is reliable, available, and performs in an acceptable manner

Having access to important university provided technology services from my mobile device

Having access to important university provided technology services from off campus when at home or traveling

Technology & Technology Services

When it comes to...

Having a university web site that provides timely and relevant information

Having a sufficient number of online (i.e. web based) services that are helpful to me

Having university information systems (finance, HR, student, library, or portal) that are easy to use and are helpful to me

Access to timely and relevant information from university information systems (finance, HR, student, library, or portal) necessary to be successful in my role as a faculty, student, or staff

Having online (i.e. web based) services that perform (or respond) in an acceptable manner

Having technology within classrooms or meeting areas that enhances the presentation of information

The End User Experience

When it comes to...

Getting training or self-help resources that help me become more effective with technology services at my university

Support staff who are knowledgeable and can assist me with resolving problems experienced with technology services at my university

Support staff who are consistently courteous and ready to respond to my request for assistance with university provided technology services

Getting timely resolution to problems I am experiencing with technology services at my university

Opportunities to provide feedback regarding technology services at my university

Participating in a university wide community of end users seeking to make the best use of technology resources

Respondents

The total population (N) for this assessment included the faculty, staff, and students (or portions thereof) of Virginia Commonwealth University. The Higher Education TechQual+ project protocols state that respondents (n) should represent a random sampling of the total population (N). The responsibility for assuring a sufficiently large random sample resides with the project coordinators at Virginia Commonwealth University. Deviations from the Higher Education TechQual+ project protocols may negatively impact the statistical accuracy of this study.

This breakdown of total population (N), respondent (n), and completed assessments is based on the data that was entered for this assessment by the Virginia Commonwealth University project coordinators. This analysis is accurate to the extent that: (1) the category and sub-category that were entered for each respondent is correct; and (2) the total population and sub-population (by category, by sub-category) information that was entered is correct. This data was provided by the project coordinators at Virginia Commonwealth University and *IS NOT* self-reported. Gaps in this data are due to incomplete or missing population, category, and sub-category data.

Total Population / Respondents

Population Size (N)	Respondents (n)	Respondents (n) %	# Complete	Response Rate
0	7500	0%	903	12%

Category: field1

	Pop (N)	Resp (n)	Resp (n) %	# Comp	Resp Rate
FR	0	969	0%	92	9%
G1	0	90	0%	18	20%
G3	0	235	0%	52	22%
GC	0	60	0%	7	12%
GM	0	933	0%	149	16%
GP	0	20	0%	3	15%
GS	0	41	0%	6	15%
JR	0	1633	0%	184	11%
SO	0	1373	0%	136	10%
SR	0	1892	0%	242	13%
UC	0	39	0%	4	10%
US	0	215	0%	10	5%
Totals:	0	7500	0%	903	12%

Legend: Pop (N) = Total Population; Resp (n) = Sample Size; Resp (n) % = $n/N \times 100$; # Comp = # Complete Assessments; Resp Rate = $\# \text{ Comp}/n \times 100$

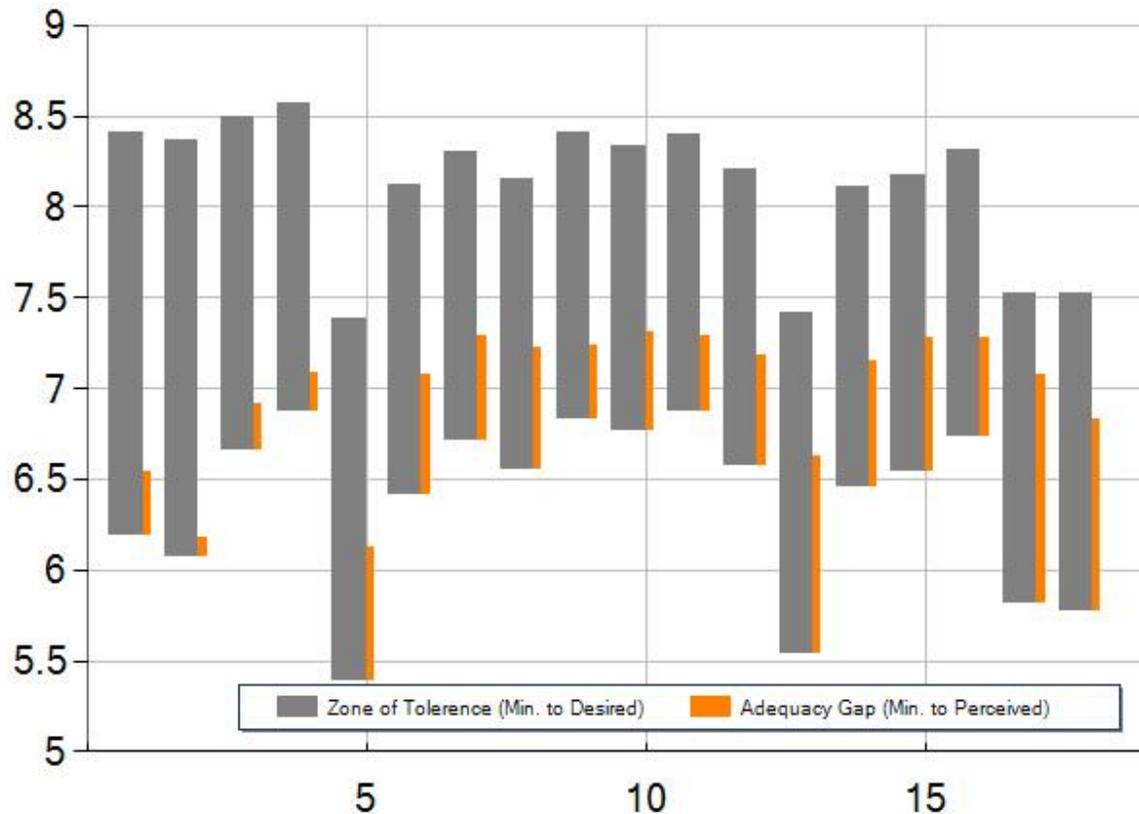
Category: field2

	Pop (N)	Resp (n)	Resp (n) %	# Comp	Resp Rate
MCV	0	625	0%	105	17%
MPC	0	6875	0%	798	12%
Totals:	0	7500	0%	903	12%

Legend: Pop (N) = Total Population; Resp (n) = Sample Size; Resp (n) % = $n/N \times 100$; # Comp = # Complete Assessments; Resp Rate = $\# \text{ Comp}/n \times 100$

Zones of Tolerance (All Respondents)

Below you will find the 'Zones of Tolerance' view for this assessment. The assessment summary data table below is included in order to make this chart easier to understand. For each service dimension the statistical mean, standard deviation, and n^* , where n^* represents the number of respondents who provided a complete rating for this service dimension. Thus, there may be variation in n^* across all service dimensions. Rows shaded yellow may indicate potential problem areas, rows shaded red indicate a negative service adequacy gap score.



Connectivity & Access

Measures service quality of network access and the ability to access online services

#	When it comes to...		Min	Des	Per	Adeq	Supr	n^*
1	Having adequate capacity (speed, bandwidth) when using the wired network	Mean	6.19	8.41	6.54	0.35	-1.87	768
		Dev	1.73	0.99	1.75	1.89	1.71	
2	Having adequate capacity (speed, bandwidth) when using the wireless network	Mean	6.07	8.37	6.18	0.11	-2.19	847
		Dev	1.74	0.95	1.86	2.03	1.91	
3	Having wireless network coverage in all the areas that are important to me as a faculty, student, or staff member	Mean	6.66	8.50	6.92	0.26	-1.57	852
		Dev	1.78	0.91	1.75	1.91	1.78	
4	Having a university network that is reliable, available, and performs in an acceptable manner	Mean	6.87	8.57	7.09	0.22	-1.48	875
		Dev	1.67	0.82	1.57	1.59	1.53	
5	Having access to important university provided technology services from my mobile device	Mean	5.39	7.39	6.13	0.74	-1.26	653
		Dev	2.21	1.84	2.01	1.94	2.14	

6	Having access to important university provided technology services from off campus when at home or traveling	Mean	6.41	8.12	7.08	0.67	-1.04	841
		Dev	1.87	1.26	1.73	1.66	1.54	

Legend: Min = Minimum Level of Service; Des = Desired Level of Service; Per = Perceived Service Quality; Adeq = Adequacy Gap Score (perceived - minimum); Supr = Superiority Gap Score (perceived - desired); n* = Total Respondents Who Completed Item; Mean = Statistical Mean; Dev = Standard Deviation; Red Color = Perceived < Minimum; Green Color = Perceived > Desired; Yellow Color = Potential Problem Areas

Technology & Technology Services

Measures service quality of technology services such as software applications or classroom technology

#	When it comes to...		Min	Des	Per	Adeq	Supr	n*
7	Having a university web site that provides timely and relevant information	Mean	6.71	8.30	7.29	0.59	-1.01	869
		Dev	1.76	1.05	1.44	1.54	1.35	
8	Having a sufficient number of online (i.e. web based) services that are helpful to me	Mean	6.55	8.15	7.23	0.68	-0.92	856
		Dev	1.68	1.12	1.45	1.43	1.32	
9	Having university information systems (finance, HR, student, library, or portal) that are easy to use and are helpful to me	Mean	6.83	8.41	7.24	0.41	-1.17	852
		Dev	1.65	0.97	1.45	1.61	1.42	
10	Access to timely and relevant information from university information systems (finance, HR, student, library, or portal) necessary to be successful in my role as a faculty, student, or staff	Mean	6.77	8.34	7.31	0.54	-1.03	854
		Dev	1.65	0.98	1.39	1.48	1.30	
11	Having online (i.e. web based) services that perform (or respond) in an acceptable manner	Mean	6.87	8.40	7.29	0.43	-1.11	850
		Dev	1.57	0.96	1.40	1.41	1.34	
12	Having technology within classrooms or meeting areas that enhances the presentation of information	Mean	6.57	8.21	7.18	0.61	-1.03	845
		Dev	1.80	1.20	1.53	1.74	1.51	

Legend: Min = Minimum Level of Service; Des = Desired Level of Service; Per = Perceived Service Quality; Adeq = Adequacy Gap Score (perceived - minimum); Supr = Superiority Gap Score (perceived - desired); n* = Total Respondents Who Completed Item; Mean = Statistical Mean; Dev = Standard Deviation; Red Color = Perceived < Minimum; Green Color = Perceived > Desired; Yellow Color = Potential Problem Areas

The End User Experience

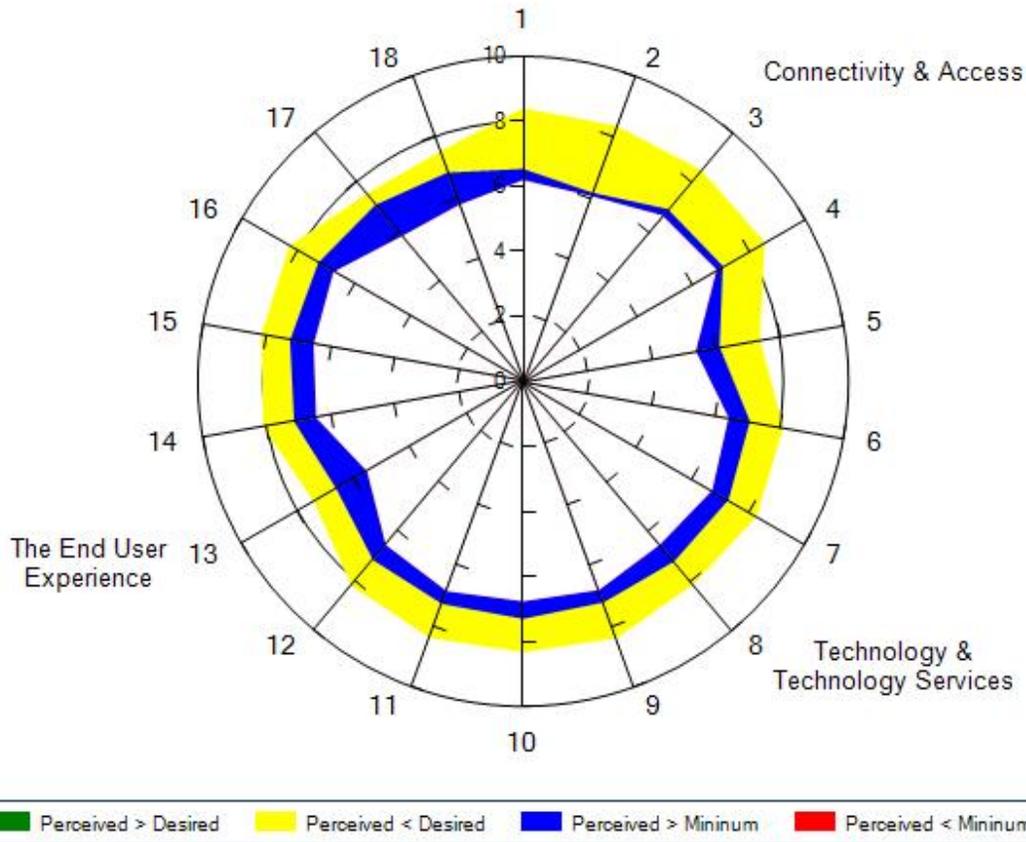
Measures service quality of training, technology support, and the end user experience

#	When it comes to...		Min	Des	Per	Adeq	Supr	n*
13	Getting training or self-help resources that help me become more effective with technology services at my university	Mean	5.54	7.42	6.63	1.09	-0.79	753
		Dev	2.04	1.67	1.59	1.75	1.66	
14	Support staff who are knowledgeable and can assist me with resolving problems experienced with technology services at my university	Mean	6.46	8.11	7.15	0.69	-0.96	786
		Dev	1.86	1.27	1.50	1.56	1.43	
15	Support staff who are consistently courteous and ready to respond to my request for assistance with university provided technology services	Mean	6.54	8.18	7.28	0.74	-0.90	780
		Dev	1.85	1.20	1.51	1.61	1.46	
16	Getting timely resolution to problems I am experiencing with technology services at my university	Mean	6.73	8.31	7.28	0.55	-1.03	772
		Dev	1.72	1.11	1.48	1.55	1.43	
17	Opportunities to provide feedback regarding technology services at my university	Mean	5.82	7.52	7.08	1.26	-0.44	779
		Dev	2.15	1.65	1.59	1.93	1.69	
18	Participating in a university wide community of end users seeking to make the best use of technology resources	Mean	5.77	7.52	6.83	1.06	-0.69	710
		Dev	2.12	1.69	1.68	1.72	1.58	

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Radar Chart (All Respondents)

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