

A Higher Education TechQual+ Study

VCU 2012 Spring Student Technology Satisfaction Survey
for Virginia Commonwealth University



Higher Education TechQual+ Project

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

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From the Higher Education TechQual+ Principal Investigator

This report is the result of a survey of technology service outcomes conducted at Virginia Commonwealth University. The survey instrument has been 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 IT service outcomes in higher education, in a way that provides for benchmarks and comparisons between institutions. The results contained within this report are based on this survey. 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 my hope that the the Higher Education TechQual+ Project will have a similar transformative effect for technology organizations in higher education.

Dr. Timothy M. Chester
Principal Investigator
Higher Education TechQual+ Project

About the Higher Education TechQual+ Project

The Higher Education TechQual+ Survey 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 survey 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 assess IT service outcomes on their own campuses. The resulting instrument is delivered through a web portal (<http://www.techqual.org>), thus shielding the participating institutions from the rigors and complexities of survey research.

The Higher Education TechQual+ Core Instrument 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 12 IT service outcomes expected by faculty, students, and staff.

TechQual+ was developed through multiple rounds of qualitative and quantitative data collection from participating institutions. Using this data, the TechQual+ instrument is continually refined with the goal of insuring that 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 outcomes" really are and then to develop an instrument that allows for the systematic exploration of these outcomes in a way that allows for comparisons across institutions.

The TechQual+ principal investigator 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 the 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 surveys for their institution.

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

Bostick, Jim
Director, User Services
VCU Technology Services
jsbostick@vcu.edu

Kennedy, Sam
Assistant Director, User Services
VCU Technology Services
skennedy@vcu.edu

Willis, Mark
CIO
VCU Technology Services
mdwillis@vcu.edu

Higher Education TechQual+ Data Analysis Guide

The data from this survey is presented in multiple ways:

Statistics: For each item in the survey, both the means and standard deviations are reported, along with the number of respondents (n^*) who actually completed this question on the survey. 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).

Outliers: The data contained in this report excludes outlying cases. Outliers by definition are observations that are numerically distant from other cases and have the potential to result in misleading results. For this study, an outlier is defined as a case where the Adequacy Gap Score is either greater than or less than two standard deviations from the mean Adequacy Gap Score. This has the effect of removing the top 2.275% and bottom 2.275% of cases. This determination is made on an item by item basis.

Incomplete Surveys: The data contained in this report includes cases where the respondent completed an individual item but did not complete the survey in its entirety.

Suggestions: When the perceived rating is below the minimum level of service, the end user is provided the opportunity to make suggestions on how the quality of this service can be improved. While these responses remain subjective, they can be useful in planning strategies to improve service quality over the long term.

About this Higher Education TechQual+ Survey

This survey consisted of multiple IT service outcomes grouped together into distinct core commitments expected by faculty, students, and staff. These core commitments for this survey were designed to assess these categories of IT service outcomes:

Connectivity and Access

Tell us about the quality of the Internet service on campus.

Technology and Collaboration Services

Tell us about the quality of Web sites, online services, and technologies for collaboration.

Support and Training

Tell us about your experiences when obtaining assistance with technology on campus.

Each of these core commitments includes separate questions that refer specifically to IT service outcomes on the Virginia Commonwealth University campus corresponding to each core commitment. 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 question:

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.

Core Commitments and IT Service Outcomes for This Survey

Below is a list of the Higher Education TechQual+ core commitments and IT service outcomes for this survey.

Connectivity and Access

When it comes to...

Having a campus Internet service that is reliable and that operates consistently across campus.

Having a campus Internet service that is fast and that provides speedy access to Web sites and rapid downloads.

Having wireless Internet coverage in all of the places that are important to me on campus.

Support for accessing the campus Internet service using my tablet or other mobile device.

Technology and Collaboration Services

When it comes to...

Having campus Web sites and online services that are easy to use.

Accessing important campus Web sites and online services from my tablet or other mobile device.

Having campus technology services available that improve and enhance my collaboration with others.

Having technology within classrooms or other meeting areas that enhances the presentation and sharing of information.

Support and Training

When it comes to...

Technology support staff who are consistently courteous and knowledgeable, and who can assist me in resolving problems with campus technology services.

Getting timely resolution to problems that I am experiencing with campus technology services.

Receiving timely communications regarding campus technology services, explained in a relevant and easy-to-understand form.

Getting access to training or other self-help information that can enable me to become more effective in my use of campus technology services.

Additional Questions

Additionally, the project coordinators for Virginia Commonwealth University included these additional questions with this survey, for which respondents were asked to provide responses.

What operating system does your computer run? (Multiple Choice Question) *Self-reported faculty, students, staff, not declared only.*

- a) Apple Mac OS X
- b) Linux
- c) Microsoft Windows
- d) Other

What browser do you use the most on your computer? (Multiple Choice Question) *Self-reported faculty, students, staff, not declared only.*

- a) Apple Safari
- b) Firefox
- c) Google Chrome
- d) Microsoft Internet Explorer
- e) Other

What handheld devices do you own? Choose as many as needed. (Multiple Answer Question) *Self-reported faculty, students, staff, not declared only.*

- a) Android-based cellphone (Droid, Galaxy, Epic, Evo, MyTouch, etc.)
- b) Android-based tablet (Galaxy Tab, Kindle Fire, Nook Tablet, etc.)
- c) Apple iPad

- d) Apple iPhone
- e) Apple iPod touch
- f) Blackberry
- g) Windows Phone
- h) Other Internet capable cellphone/tablet

Do you read electronic books (ebooks) on a handheld device such as iPad, Kindle, Nook, or Sony Reader? (Multiple Choice Question) *Self-reported faculty, students, staff, not declared only.*

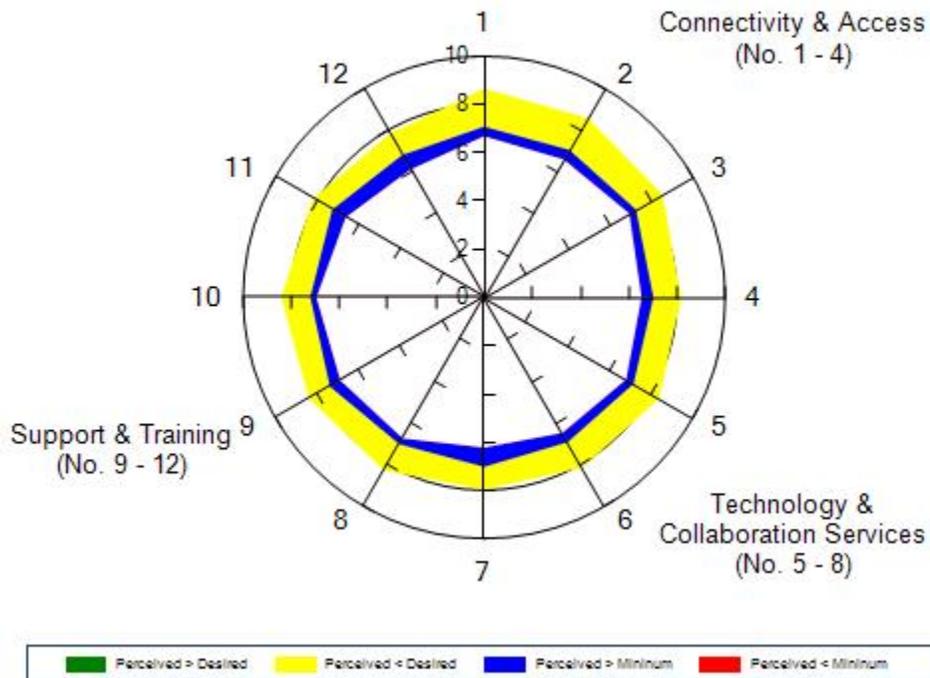
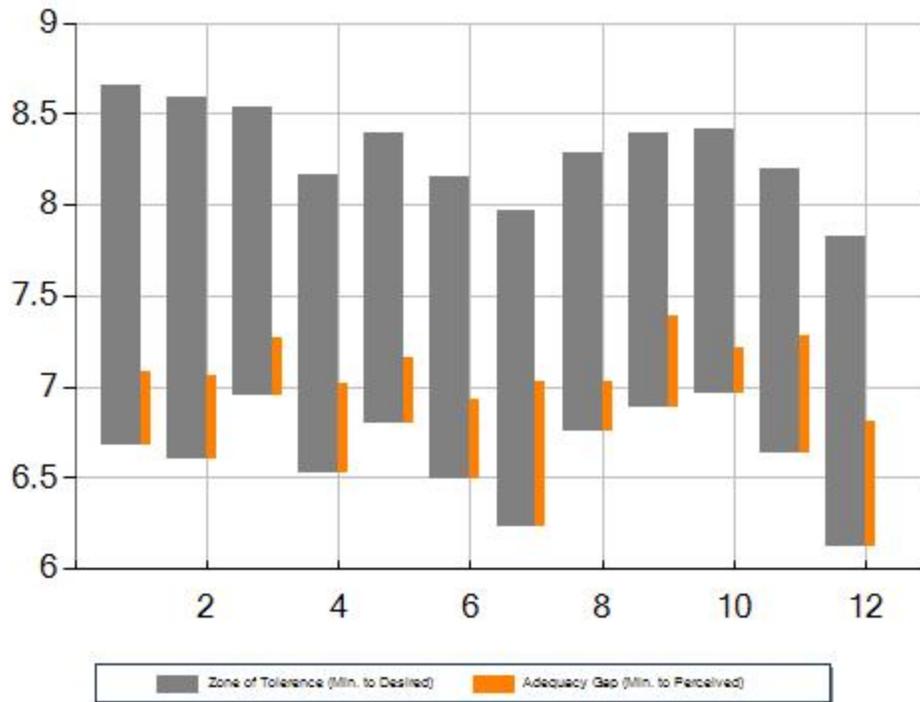
- a) Yes
- b) No

Please identify what VCU Technology Services is doing well. This might pertain to the network, Banner, classroom technology, email, telephone service, eServices, myVCU Portal, mobile technology such as VCU Mobile, VCU helpIT Center or other services and programs we support. (Open-ended Question) *Self-reported faculty, students, staff, not declared only.*

Please identify what VCU Technology Services most needs to improve upon. (Open-ended Question) *Self-reported faculty, students, staff, not declared only.*

Results for All Respondents

Below are the charts, data tables, and suggestions for this view of the survey data.



Data Tables for All Respondents

For each IT service outcome 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 and Access

Tell us about the quality of the Internet service on campus.

#	When it comes to...		Min	Des	Per	Adeq	Supr	n^*
1	Having a campus Internet service that is reliable and that operates consistently across campus.	Mean	6.68	8.66	7.08	0.40	-1.59	389
		Dev	1.53	0.72	1.43	1.55	1.34	
2	Having a campus Internet service that is fast and that provides speedy access to Web sites and rapid downloads.	Mean	6.60	8.59	7.06	0.47	-1.53	384
		Dev	1.58	0.84	1.37	1.52	1.34	
3	Having wireless Internet coverage in all of the places that are important to me on campus.	Mean	6.95	8.54	7.27	0.32	-1.27	381
		Dev	1.66	0.92	1.46	1.53	1.39	
4	Support for accessing the campus Internet service using my tablet or other mobile device.	Mean	6.53	8.17	7.02	0.49	-1.14	339
		Dev	1.69	1.20	1.54	1.55	1.42	

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 and Collaboration Services

Tell us about the quality of Web sites, online services, and technologies for collaboration.

#	When it comes to...		Min	Des	Per	Adeq	Supr	n^*
5	Having campus Web sites and online services that are easy to use.	Mean	6.80	8.39	7.16	0.37	-1.23	358
		Dev	1.43	0.89	1.32	1.37	1.22	
6	Accessing important campus Web sites and online services from my tablet or other mobile device.	Mean	6.49	8.15	6.93	0.44	-1.22	322
		Dev	1.74	1.17	1.41	1.56	1.38	
7	Having campus technology services available that improve and enhance my collaboration with others.	Mean	6.23	7.97	7.03	0.79	-0.95	351
		Dev	1.71	1.21	1.38	1.42	1.30	
8	Having technology within classrooms or other meeting areas that enhances the presentation and sharing of information.	Mean	6.75	8.29	7.03	0.29	-1.26	359
		Dev	1.55	0.96	1.42	1.41	1.37	

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

Support and Training

Tell us about your experiences when obtaining assistance with technology on campus.

#	When it comes to...		Min	Des	Per	Adeq	Supr	n*
9	Technology support staff who are consistently courteous and knowledgeable, and who can assist me in resolving problems with campus technology services.	Mean	6.89	8.39	7.39	0.50	-1.00	311
		Dev	1.52	1.02	1.43	1.14	1.08	
10	Getting timely resolution to problems that I am experiencing with campus technology services.	Mean	6.96	8.42	7.21	0.25	-1.21	317
		Dev	1.53	1.05	1.45	1.32	1.28	
11	Receiving timely communications regarding campus technology services, explained in a relevant and easy-to-understand form.	Mean	6.63	8.20	7.28	0.66	-0.92	335
		Dev	1.57	1.13	1.41	1.41	1.33	
12	Getting access to training or other self-help information that can enable me to become more effective in my use of campus technology services.	Mean	6.12	7.83	6.81	0.69	-1.02	316
		Dev	1.83	1.42	1.64	1.63	1.53	

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