

CORRELATION AND REGRESSION ANALYSIS

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ISACS Example – Parents Data
Overall Quality of Education (93+)
Performance Correlation Matrix

Correlation

Greater	Low Performance (Less than 60%)	Moderate Performance (60 - 80%)	High Performance (80% Plus)
.68			• Academic Departs (88+)
.68			• Student Development (82+)
.63		• Academic Services (76+)	
.62			• Academic Program (89+)
.61			• Faculty (86+)
.57		• Administration/staff (71)	
.50		• Board of Trustees (69+)	
.46			• Publications (84+)
.46			• Fine Arts (83+)
.46			• Students (80+)
.46		• Alumni Relations (77+)	
.44		• Admissions (75)	
.42			• Parents (80+)
.42		• Business Office (76)	
.41		• Communications (79+)	
.40			• Extracurricular Act (84+)
.39			• Buildings/Grounds (91+)
.37			• Development Office (83+)
.36		• Ext. Day Program (75)	
.35			• Athletic Program (82+)
.31			• Community Service (91+)
.28		• Food Service (60+)	
.23		• Trans. Services (73+)	
Lesser			

Correlation

() Percentage of total positive (excellent/very good)
 (+/-) indicates the percentage is significantly above or below the ISACS database.
 NS - Not significant.

CORRELATION AND REGRESSION ANALYSIS

Correlation and regression analyses are run using the overall quality of education as the dependent variable. The independent variables include:

- Image/Attitude ratings - What is the relationship between the Image/Attitudes ratings about the school and the perception of overall quality of education?
- Performance ratings - What is the relationship between the performance ratings of the school and the perception of overall quality of education?

Correlation

The results from your ISACS Constituent Survey are reviewed to better understand how various perceptions are linked together. The statistical technique that is used to accomplish this goal is a correlation analysis. This statistical tool allows for a better understanding of how two variables are related or are "correlated." The results of the correlation analysis are expressed in terms of a correlation coefficient for the two variables that range from 0 to (+/-) 1.0. A low coefficient means there is little relationship between the two variables while a perfect correlation is 1.0 and means the elements of the analysis are correlated or associated on a one-to-one basis. This type of analysis has been used to correlate the overall quality of education (as the dependent variable) to the various attitude statements or the various performance areas (as independent variables) using parent data.

Correlation Analysis – (please refer to the matrix on page 22)

A technique for evaluating the attitudes toward your school or the performance of various aspects of the school is a Correlation Matrix. This matrix combines the coefficients from correlation analysis and the attitudes or performance ratings. These are placed into a matrix format for ease of understanding and interpretation. The examples on page 22 depict this type of display.

This matrix provides a perspective on the strength of the relationship between parents' responses to the attitude statements (or the performance data) and their overall evaluation of the quality of education at your school. The chart displays the correlation coefficients and the level of agreement with each statement. The greater the correlation coefficient (see scale on left side of chart, page 22), the closer the statement relates to the overall evaluation of education quality. The statements are placed in rank order based on the correlation coefficients, and the relative level of agreement (or performance) is noted. Please note that a + or - next to the percentage indicates that the level of agreement (or performance) is significantly above or below the ISACS benchmark for comparable schools.

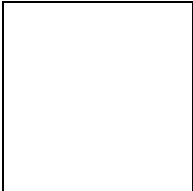
Ideally the attitude statements or the performance areas that correlate highly with the overall quality of education also register high levels of agreement or performance. However, attention should be focused on the areas that have a relatively greater correlation with the overall quality of education and garner a lower level of agreement or performance. Please note that Low, Moderate, and High levels of agreement and performance are relative levels. You may find that a different division of these levels would be more appropriate for your school and analysis.

Important note: At times the correlation analysis cannot be performed for specific attitude statements or performance ratings and, therefore, these statements or areas are listed as not significant. These elements will be found at the bottom of each chart.

ISACS Example – Parents’ Data

Overall Quality of Education (77-)

Image/Attitude Regression



• Regression analysis indicates which statement(s) significantly impact the overall quality of education evaluation. The coefficient indicates the magnitude of the impact (by increasing the evaluation of the specific statement) on the overall quality of education rating (all other factors being equal). Variables that are not significant have no impact on the overall quality of education evaluation at this time.

Regression

Regression Analysis – please refer to page 24

A technique that assists in understanding how various attitudes or performance areas impact the overall quality of education is a multiple regression or "driver" analysis. This tool evaluates how each parent answers each question in relation to how they answer the overall quality of education question for your school. This analysis results in identifying the impact or “driver” coefficient that describes the magnitude of the impact that an attitude statement or performance area has on the overall rating. This will enable the evaluation committee or administration to focus attention on areas that have a greater variance and, therefore, impact the overall quality of education to a greater degree.

The impact coefficients are listed for the significant variables on the left side of the graph and the total agreement or positive performance is detailed on the right side of the graph. While all attitudes or performance areas are important, some do not have a significant impact, at this time, on the perception of the overall quality of education. An impact coefficient might best be described as the relative impact on the overall quality of education rating that would result from improving the perception of the identified attribute or area by one unit. Please note that the base size is shown at the bottom of the graph. In addition, the R2 is shown and reveals the amount of variance in the overall quality of education rating that is explained by this regression model.

Important note: There are many statistical requirements for conducting a regression analysis that are somewhat complex. This statistical tool requires a reasonably good base size and a full complement of answers from parents. A regression analysis using your school's data will be run if at all possible; however, your school's results may not contain a regression analysis if the base of responses is too small.

At times, various attitude statements or performance areas may be eliminated from the analysis in order for the analysis to be accomplished. These attitude statements or performance areas are so noted and are listed in the bottom portion of the graph with attitudes or performance areas that are registered as not significant at this time by the regression analysis.