Impact of Component Factors of Overall CSAT  
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Education Doctoral Program  

Introduction  
A software company utilizes an online customer satisfaction survey for their clients that have initiated a technical support inquiry. Clients can initiate the service through a phone registration process or via a web interface. The clients respond to seven questions in the survey: one concerning an overall rating of their experience, one related to the product, one concerning their interaction with the Registration Specialist, one rating the support process and three concerning their interaction with the Support Engineer. Clients initiating the service via the web do not interact with the Registration Specialist so their survey does not contain the one question related to that interaction. The Registration Specialist’s role is to answer inquiries initiated via phone and to effectively and efficiently understand the client’s needs and connect them with the appropriate Support Engineer. The company tracks the number of days until the inquiry is resolved and the ticket closed along with the number of minutes the engineer works on a resolution.

Purpose  
Management team leaders at the software company routinely review the surveys for the overall satisfaction scores to develop benchmarks and training initiatives for the support process team members. There is a belief within the management team that the amount of time until the issue is resolved is the most influential factor in the client’s overall satisfaction. The company has not analyzed the survey data to see if this is true. This study was conducted to assess what predictors from the client survey significantly predict the overall satisfaction score.

Research Question(s)  
1. Is days to close the strongest predictor of customer satisfaction (CSAT)?  
2. Do the other survey variables better predict overall customer satisfaction: product, interaction with Registration Specialists, interaction with Support Engineers and/or the support process?

Methods  
799 surveys were collected from July to November 2014 of which 423 included the Registration Specialist information. Multiple linear regression analysis was performed on the data with overall customer satisfaction as the criterion variable with eight predictor variables:

- Predictor 1: The Support Engineer’s treatment of the client made them feel valued.  
- Predictor 2: The Support Engineer’s knowledge  
- Predictor 3: The Support Engineer’s ability to communicate with the client  
- Predictor 4: Satisfaction with the support process  
- Predictor 5: Satisfaction with the product  
- Predictor 6: Total minutes per incident (TMPI)  
- Predictor 7: Satisfaction in their interaction with the Registration Specialist  
- Predictor 8: Days to close

Results  
From the inspection of the various diagnostic graphs (residuals and normal probability plots), the assumptions of linearity, homogeneity of variance, and normality all appear tenable. Although not tested, it is reasonable to assume independence of the observations in this scenario. The largest value for Cook’s D in this data set was .199; thus it is safe to assume no undue influence by any of the observations. Collinearity was not an issue as the largest VIF for any of the predictors was 4.497, which is well below the most stringent guidelines.

For this sample, the model of eight predictors could account for 86.4% (adjusted to 86.1%) of the total variance in the overall satisfaction score. This was shown to be significant at the level of .05, (F(8,414) = 328.232, p < .001). Three of the eight predictors made significant contributions to the prediction of the overall satisfaction score. On average, for each one point increase in satisfaction score of the Support Engineer’s score is expected to increase .153 (regression weight .153, p < .001). For each one point increase in satisfaction for the score of the Support Engineer’s knowledge, it is expected that the overall satisfaction score increases .319 (regression weight .319, p < .001). For each one point increase in satisfaction for the score of the Support Engineer making the client feel valued, the overall satisfaction score is expected to increase .459 (regression weight .459, p < .001).

An inspection of the squared partial correlations reveals that the Support Engineer making the client feel valued contributes for the greatest variance, above and beyond the other predictors, in the overall satisfaction score accounting for approximately 26.6% (squared partial correlation .256). The Support Engineer’s Knowledge uniquely contributes for 14.9% of the variance (squared partial correlation .149) and Support Engineer’s communication uniquely contributes 4.8% (squared partial correlation .048).

Discussion  
The management team members are very interested in the results in order to improve internal training opportunities for Registration Specialists and Support Engineers. The study indicates that while days to close and the amount of time the engineer works on the issue are important internal benchmarks, these predictors do not significantly influence the client’s overall satisfaction. The three predictors related to the interaction of the Support Engineer with the client most significantly predict the client’s overall satisfaction. The team may want to consider increasing soft skills training to improve the personal interaction between the engineers and the clients.

The study also seems to indicate that the method of initiation by the client (phone or web portal) does not significantly predict their overall satisfaction as predictor 7 (the client’s interaction with the Registration Specialist) was not significant. Predictor 7 may be recorded for further regression analysis to confirm this hypothesis.

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