Measuring the External Factors Related to Young Alumni Giving to Higher Education

Kathryn Shirley Akers\(^1\), University of Kentucky

J. Travis McDearmon, University of Kentucky

\(^1\) Please use Kathryn Akers as author of contact. 131 Taylor Education Building, Lexington, KY 40506-0001, or kathryn.akers@uky.edu.
Measuring the External Factors Related to Young Alumni Giving to Higher Education

Abstract

This study examined the results of an institutional survey conducted by the Annual Giving Office at a large public university in the Midwest. Overall, 2,273 young alumni participated in an online survey that assessed personal and institutional factors related to an alums’ willingness to make donations to the university. This study used the Rasch measurement model to examine relationships between alumni’s willingness to give and institutional factors. Using the question: Please rate the following factors from 1 to 5 that could POSITIVELY affect your willingness to make donations to this university? (1 = least likely and 5 = most likely) results indicated that overall, alumni did not agree as strongly with the factors as the literature suggested.

DESCRIPTORS: Rasch Model, Young Alumni Giving, Higher Education, Development
Colleges and universities in the U.S. have developed multiple strategies used specifically for raising money from alumni. Many institutions rely on alumni donations for a sizeable portion of the overall budget and to keep the expenses down for current students. With this need being present, a large amount of the development budget is usually spent on soliciting alumni donors. Quality and meaningful research should be a critical step in the data driven decision making process for these institutions. Development offices at colleges and universities can directly benefit and increase their alumni giving by evaluating how their office and similar offices successfully solicit alumni donors and potential donors. Understanding the decision making process for why or why not alumni choose to donate is a very important step.

Purpose of Study

This study used the Rasch measurement model to examine relationships between alumni willingness to give and institutional factors based upon an institutional survey completed by a public university’s development office in the spring of 2008. The results suggest that factors which have historically been perceived to increases alumni willingness to give may not be relevant towards the newest generation of college and university graduates. Specifically, this study examines external factors that impact giving for young alumni non-donors for a specific college at a large, public land-grant institution.

Perspectives and Theoretical Framework

Research on young alumni giving

Previous research has revealed that factors such as age (Lindahl and Winship, 1992; Bruggink and Siddiqui, 1995; Weerts and Ronca, 2007) and income level (Bruggink and Siddiqui, 1995; Taylor and Martin, 1995; Clotfelter, 2003) have been shown to attribute to whether or not alumni will donate. Although these factors are important to development efforts,
most institutions will likely look beyond just age and income in order to create solicitations for their graduates. Other factors such as economic conditions (Leslie, Drachman, Conrad, and Ramey, 1983), athletic team performance (Grimes and Chressanthis, 1994; Brooker and Klastorin, 1981), receiving news updates (Laguilles, 2008), and current active participation in institutional activities (Lindahl and Winship, 1992; Bruggink and Siddiqui, 1995; Taylor and Martin, 1995; Gaier, 2005; Weerts and Ronca, 2007) have also been found to increase an alum’s likelihood of donating. Based on this information, institutional development offices are able to engage in data driven decision making to be able to make the most out of their valuable resources.

Research examining institutional factors related to alumni giving has been a popular line of inquiry over the last several decades. However, very few focus specifically on young alumni giving participation. The emergence of research focused on the younger generations is now in demand due to falling participation rates being recorded from institutions across the country (Council for the Aid to Education, 2009). Several studies have found that younger donors typically donate less to their alma maters when compared to older generations (Bruggink and Siddiqui, 1995; Weerts and Ronca, 2007; Willemain, et al, 1994). Even if the gifts of this generation are less frequent, cultivating young alumni is still a priority of college and university development offices especially since it has been found that past giving is the strongest single factor in predicting future giving (Lindahl and Winship, 1992).

The Rasch model

For survey research and polytomous data, survey questions, also called items, are evaluated on their level of difficulty to endorse. The survey respondents, also called persons, are also placed along an interval continuum, based on their willingness to endorse these items. The
Rasch model, introduced by George Rasch (1960), is similar to a one-parameter, item-response latent-trait model which provides estimates for persons and items measured on the same scale. One distinct benefit of using the Rasch model to analyze surveys is that it provides these estimates independent of the sampling distribution and the sample employed (Linacre, 1999). The result is a clear item and person, or survey question and alumni, mapping where people and items are placed on the same continuum and analyzed accordingly.

The Rasch model is specifically effective in measuring likert-type scale data. The Rasch model does not assume that the distances between response categories (strongly disagree, disagree, etc...) are the same, but rather like a rubber ruler (Bond and Fox, 2001). This model provides a mathematically sound alternative to traditional, classical test theory model to evaluate survey responses.

Methodology

Data Source

The purpose of this study is to examine factors related to young alumni giving. The factors that were assessed in the data source were identified in the research literature to positively affect a young alumni’s likelihood to donate to their alma mater. Young alumni for this study are defined as those who have graduated between 10 and 15 years of the date of the study and who fall between 25 and 35 years of age. The data comes from a survey conducted by the annual giving office of a large public, land-grant university in the Midwest. The population used for this survey consisted of alumni who had graduated from the university between 1997-2007 and were under 35 years old. The survey was administered online during the spring of 2008 through email to all alumni in the selected population who had an e-mail address on file with the university development office.
This survey was completed by 2,273 young alumni in the spring of 2008. The institution being used in this analysis has historically focused its academic reputation on its Engineering program. Therefore, only those who graduated from this academic college were used in this study. The focus of the current analysis targeted only those who had not yet donated to the university. Of the young alumni that completed the survey, 206 were graduates from the target college and had not yet donated to the university.

To evaluate the relationship between the factors identified in the literature and alumni’s true feelings toward these factors. Below is the specific question that was analyzed from the survey:

Item used for Rasch Analysis

<table>
<thead>
<tr>
<th>Question 21: Please rate the following factors from 1 to 5 that could POSITIVELY affect your willingness to make donations to this university? (1 = least likely and 5 = most likely)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The economy</td>
</tr>
<tr>
<td>News stories about Purdue</td>
</tr>
<tr>
<td>Athletic team performances</td>
</tr>
<tr>
<td>Receiving news updates from Purdue</td>
</tr>
<tr>
<td>Payback of student loans</td>
</tr>
<tr>
<td>Communicating with classmates</td>
</tr>
<tr>
<td>Large donation announcements</td>
</tr>
<tr>
<td>Volunteer opportunities with Purdue</td>
</tr>
<tr>
<td>Diversity Initiatives</td>
</tr>
<tr>
<td>Membership in Alumni Clubs</td>
</tr>
</tbody>
</table>

Data Analysis

Data were analyzed using WINSTEPS (Linacre, 2005) adopting the polytomous “Rating Scale” model. The Rasch rating scale model was used here because its ability to evaluate the measurement properties of rating scale data. Item difficulty is the main characteristic influencing
responses because it is based on the ability to endorse a set of items and the difficulty of a set of items (Linacre, 1999). In general, people are more likely to endorse easy-to-endorse items than those that are difficult to endorse. People with higher willingness-to-endorse scores are more agreeable than those with low scores. The rating scale structure and quality of the individual items, or factors, were examined. The study also examines the hierarchy of the factors attributed to young alumni giving.

Before employing any Rasch model, two basic assumptions must be met. The first is that most of the items must be measuring one underlying, unidimensional construct. Here this construct is the effect of the topic on alumni willingness to donate. The second assumption is that the probability of responding correctly to a category is not influenced by the response of another item (Wright, 1996). In the survey analyzed in this study there are no “right” or “wrong” answers for the respondent.

Given that this survey is asking about perceptions of the donor, or potential donor, it is reasonable to believe that not every person will have an opinion or response to every question. The Rasch model enables the researcher to leave the missing data points as “missing” rather than input an average or other missing data techniques. The result is a model that can help researchers interpret missing data points without the missing data effecting the model.

Results and Discussion

The factors used in this survey instrument were identified in the literature as factors attributed to young alumni giving. Therefore, it is expected that the alumni in this survey would find the factors easy to endorse. So, we would expect most alumni to answer agree or strongly agree on the survey items. Winsteps, the software used for this analysis produces diagnostic tables for rating scale analysis (Linacre 2005).
Structure of Categories

With this analysis, it is expected that the category measure (seen as Measure in Table 1) will increase as the numeric categories increase. Overall, this does hold true throughout the categories. As previously stated, alumni were expected to agree with the survey. However, a quick summation of the percentage of categories 4 and 5, where 5 was most likely to agree, show that only 30 percent of alumni agreed with the statements. If category 3 is also included, 59 percent of alumni agreed with the statements. This still leaves 41 percent of alumni who were least likely to agree with the statements that would affect their willingness to make donations to their university.

Table 1

Category Structure

<table>
<thead>
<tr>
<th>Category</th>
<th>Observed Count</th>
<th>Observed Percentage</th>
<th>Category Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>551</td>
<td>22</td>
<td>-2.27</td>
</tr>
<tr>
<td>2</td>
<td>487</td>
<td>19</td>
<td>-0.99</td>
</tr>
<tr>
<td>3</td>
<td>723</td>
<td>29</td>
<td>-0.09</td>
</tr>
<tr>
<td>4</td>
<td>526</td>
<td>21</td>
<td>0.94</td>
</tr>
<tr>
<td>5</td>
<td>233</td>
<td>9</td>
<td>2.52</td>
</tr>
</tbody>
</table>

Factors Attributed to Young Alumni Giving Hierarchy

Figure 1 gives a visual display of the hierarchy of factors attributed to young alumni giving. Each # represents 3 alumni. The distribution of alumni on the left side can be thought of as a sideways distribution. This chart shows that alumni were fairly normally distributed with respects to their responses. The mean score for alumni is shown on the chart with an “M” on the left side of the chart. The mean score for factors is shown as an “M” on the right side of the charts. Because the mean of the items is greater, or farther up on the chart, than the mean of the
alums, it can be concluded that alumni had a difficult time stating that they highly agree with the factors on the right.

The factors that were the hardest to endorse, or that fewer alumni responded they highly agreed with were: large donation announcements, athletic team performance and diversity initiatives. The factor that was the easiest for alumni to endorse, or that more alumni indicated they highly agreed was: the economy followed by news story. The remaining factors seem average to endorse, because they remain around the mean.

One major gap that this variable mapping identifies are factors that alumni find easy to endorse. In other words, research on young alumni giving has yet to identify those factors that young alumni feel will make a positive impact on their likelihood to donate to the university.
Figure 1

Alums - MAP - Factors

- Large donation announcements
- Athletic Team Performance
- S S Diversity Initiatives
- Volunteer opportunities
- Payback of student loans Receiving News updates
- Membership in Alumni Club
- News story
- The economy
- Communicating with classmates

EACH '#' IS 3.
Evaluation of the survey rating scale

One of the simplest ways to evaluate the structure of the rating scale is by examining the category thresholds and category probability curves. Table 3 demonstrates the category thresholds or structure measures. According to Linacre (1999) threshold distances should not be too close or too far apart. Ideally, each step should demonstrate a distinct position on the variable (Bond & Fox 2007). Linacre also suggests that thresholds increase more than 1.4 logits (the scale used to measure in Rasch analysis) but no more than 5 logits. According to the recommendations made by Linacre (1999) and Table 3, it is obvious that this rating scale is not operating optimally.

Table 3

<table>
<thead>
<tr>
<th>Category Label</th>
<th>Threshold (Structure Measure)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NONE</td>
</tr>
<tr>
<td>2</td>
<td>-.71</td>
</tr>
<tr>
<td>3</td>
<td>-.78</td>
</tr>
<tr>
<td>4</td>
<td>.31</td>
</tr>
<tr>
<td>5</td>
<td>1.18</td>
</tr>
</tbody>
</table>

The category probability curves for this survey reiterate the findings from Table 3 and are visualized in Figure 2 below. Probability curves show the probability of endorsing any given rating scale category at any level of agreeability. A probability curve for a well-functioning reliability curve would show each category (numbered 1 though 5) having a peak and smooth transition to the next category. As visualized below, this is not the case for each rating scale.
Category 2 does not peak at any point. Categories 1 (strongly disagree) and 5 (strongly disagree) are very dominate for the majority of levels of agreeableness. One solution commonly utilized is to collapse categories that are not being used. For example, survey developers may find that this scale may be better utilized in only 3 categories.

Figure 2

CATEGORY PROBABILITIES: MODES - Structure measures at intersections

Educational Importance

There is still much research to be done on factors related to alumni giving. This study identifies a significant gap in the literature related to factors that would positively affect alumni willingness to make donations. Other factors that this study does agree are true factors in determining whether or not alumnus(a) will donate, such as the economy, are really out of the control of the university. Other factors that universities currently put forth a great effort to fund
and publicize, such as large donation programs and diversity initiatives may have very little
effect on whether or not alumni actually donate.

This study has many implications for offices of development at universities. It is
important that offices of development research their population and can identify important
factors that may be unique to their alumni. Understanding why alumni donate can save the
university valuable time and resources.
References


