A Conjoint Analysis of Teachers’ Choice of a Graduate School

Saturnino E. Dalagan Jr. ¹ and Dolores T. Mapayo ²

Faculty, Davao Oriental State University ¹
Faculty, Department of Education ²

Abstract:

This study aimed to describe the teachers’ choice of graduate school through significant product and service attributes. It specifically aimed to describe the demographic characteristics of Manay District teachers behind their choice of graduate school in terms of age, gender, ethnicity, civil status, position, employment status, field of concentration, and income per month; to determine the teachers’ choice of graduate school based on the seven attributes namely name of school, mode of classes, campus location, cost, program background, faculty, and influence; to determine the teachers’ choice of graduate school as influenced by the attributes through choice-based conjoint analysis; and to determine the market shares of product profiles based on the teachers’ choice in terms of demographic factors.

A survey was used to collect data from 262 elementary and secondary teachers of Manay District who answered the survey questionnaires regarding teachers’ choice of graduate school.

The study utilized Choice-based conjoint analysis to investigate the effect and attribute in the study. Cluster analysis was used to identify market segments based on consumer preferences and demographics.

Results from the study showed that through direct ranking, program background is the most important attribute, followed by mode of classes, cost, campus location, influence, faculty and lastly school name. Most number of the teachers would likely to enroll in DOSCST, main campus, within Davao Oriental, with a cost of ₱5000–₱10,000, level II accredited programs, with Ph.D. graduate faculty, and with employer who influenced their choice.

Keywords: teachers’s choice, program background, choice-based conjoint analysis, Philippines

Introduction

The roles and functions of schools are changing in several countries and similar to what is expected of teachers (OECD, 2009). Teachers are open to these changes; such would be based on the activities that develop an individual’s skills, knowledge, expertise and other characteristics as a teacher and through engaging in graduate school. One of the most critical decisions that graduate students are facing is to decide which graduate school they will attend and present the best fit for them both academically and personally inclined (Asher, 2008). Interest in graduate studies’ choice arose from several distinct sources such as colleges hoping to shape and maximize the competitiveness of their freshman class; state governments looking to improve access for
underrepresented populations; and researchers attempting to model and understand the attendance decision process (Kinzie, et al., 2004).

Before deciding which school to attend to, one should carefully evaluate the reasons for entering graduate school. The most successful and productive graduate students are those driven by curiosity, a sincere desire to learn and enthusiasm for their research (Das, 2016). But Mack (2016) kept on telling that the process of selecting a graduate school to attend can be one of the most difficult decisions an individual will ever have to make in their lifetime.

Hines (2007) noted that a student's career choice of graduate school dictates to make a decision on what kind of a graduate program he or she desired. Furthermore, Sidin, et.al (2003) emphasized that pursuing an advanced degree is expensive, time consuming and one of the bigger decisions one will make in his career. Likewise, Hansen (2015) mentioned that one of the many challenges of graduate school is obtaining the funding needed to pay for tuition, school fees, requirements, and other expenses.

According to Perna (2006) and De Angelo (2009), exploring the graduate school choice process helps address whether individuals are accessing post-baccalaureate education in an equitable manner, as well as whether institutions are providing graduate degrees in the most efficient structure. In the paper written by Estremera (2012), he clarified that graduate school offers a broad choice in degree programs with the best faculty available and a supportive and nurturing environment. UP Mindanao offers all these in order to equip its students with skills to truly make them an offering to the people of Mindanao or wherever their future careers may carry them. Similarly, according to the study of Mina (2015), many believed that University of Mindanao is the best institution of learning because it offers quality education, competent professors, affordable fees, flexibility of curriculum due to the term system, and student-friendly particularly to working students. He added that top management has maintained its position in promoting excellence focusing on educational quality and exceptional performance. Yet, the problem is that many graduate students are indeterminate which graduate program is best for them.

The gap of investigations with regards to the choice of graduate school ignited the interest of the researcher to conduct a study on investigating the different attributes as preferences of teachers in enrolling graduate schools. Studies revealed associations and relationships on selecting graduate schools; however, lack of attention has paid focus to product profile to incorporate predictions of teachers’ preference for graduate school services. This study announced teachers about the need to choose better services rendered by a graduate school to promote a culture of excellence.

Review of Literature

Attributes in Choosing a Graduate School

The name of a school is deemed when choosing a graduate school. The article of Lei and Chuang (2010) pointed out that academic reputation of the institution and program size and quality are factors to be thought when choosing either an undergraduate or graduate schools. Curtis (2011) supported that when selecting an academic institution for a graduate level to enrol, undergraduate level is focused on research. In addition, Shelley (2010) and Vockley (2012) shared that the top quality to look for in a graduate school is the program being offered with plenty of opportunities
for real world application and partnering with local organizations. However, Bird (2012) looked less at the university name.

The delivery of instruction is an attribute in choosing a graduate school. Meyers (2003) found out that students who participated in virtual class discussions had higher level of consciousness and confidence. Furthermore, online delivery of instructions have greater flexibility (Stutz, 2016), studying off campus offers a comprehensive and flexible study experience at their own home (Nicoll, 2012) and distance study requires a lot of self-motivation and discipline (Collier, 2016). On the other hand, Adams & De Fleur (2005) claimed that most of the employers are skeptical of online degrees and Cox, Carr and Hall (2004) stressed that chat function of the system have less effective for more in-depths topics.

Campus location is another attribute in attending a graduate school. Slide (2016) emphasized that a school located near a potential employer is chosen if the concern is a job upon graduation.

Cost is also an attribute when one is enrolling a graduate school. Hertlein and Lambert-Shute (2007) claimed that being fully funded through out the program is an advantage. Similarly, Mazerolle and Dodge (2012) casted that the availability of financial assistantship was the most influential factor in the choice of a graduate program.

Quality assurance like accreditation level status is valuable in choosing a graduate school. Boland (2012) simplified that accreditation maintain and enhance the academic standing of the graduate programs and contribute significant bearing on the public perception of the quality of university graduates. This is seconded by Anderson (2016) that school’s program certification meet prescribed academic standards is when a college or university is accredited.

Methodology

Research Design

The study attempted to predict the choice of teachers in attending a graduate school using choice-based conjoint analysis. It focused on the seven attributes which affect teachers’ choice of a graduate school such as name of school, mode of classes, campus location, cost, program background, faculty, and influence.

Sampling

The study was conducted at Manay District, Division of Davao Oriental. Complete enumeration was used for the secondary school teachers while random sampling for the elementary school teachers. There were 262 respondents comprising 172 elementary teachers and 90 secondary teachers. Lottery method was used in order to survey the representative from elementary school teachers.
Data Collection

Attributes were gathered through group discussion among the teachers at Del Pilar National High School of Manay. Then, it was pre-surveyed to the teachers at San Miguel Elementary School of Caraga. Additional attributes were solicited from these groups of teachers. A new questionnaire then was being formulated. Hence, the researcher conducted a pilot study at Caraga District with 55 respondents. This is to check the validity and reliability of the survey tool. And indeed, it passed the validity and reliability test. Furthermore, actual survey was conducted to collect the final data. Lastly, the final survey questionnaire was conducted to 262 teachers to determine the attributes that affect their choice of a graduate school. Expected attributes from various studies and literatures were adapted to help them identified. They were also given a space in the questionnaire for them to write additional attributes which were not found in the pre-survey questionnaire.

Analysis

The study was analyzed by means of choice-based conjoint analysis. First, the attributes valued by the customers were established. In this study, the product or service attributes from the related studies on features influencing teachers’ choice of graduate school were verified and tasked them to rank the attributes. There was an open-ended question to assure that the respondents could give their own attributes. Then, determine the product or service profile of teachers’ choice of a graduate school. In this article, the computer optimized experimental design was used to generate all probable product profiles. Further, a market simulation was used to calculate the product profile that had the most value of utility to see the greatest value of market share.

Findings

Teachers’ Choice of Graduate School Based on Attributes

Direct questions about importances among the seven following attributes: faculty, mode of classes, cost, influence, campus location, program background, and school name were asked to the teachers through ranking. Table 1 shows the rank of the attributes in the generated four clusters. It can be noted that mode of classes ranked 1 as the most important attribute in Cluster 1 which has 17.2% or 45 teachers. This is followed by name of school, cost, campus location, faculty, influence, and program background. In Cluster 2 which has 48.1% or 126 teachers, cost is the most important attribute and followed by program background, name of school, mode of classes, campus location, faculty, and influence as rank 2, 3, 4, 5, 6, and 7 respectively. Young (2015) informed the individuals to understand that tuition and other costs are important considerations when deciding which graduate school to attend. The Cluster 3 and 4 which has 45 teachers each or 17.2 % put name of the school as the most important attribute. Cost, campus location, mode of classes, influence, faculty, and program background ranked 2, 3, 4, 5, 6, and 7 respectively in Cluster 3. Program background, campus location, cost, influence, faculty, and mode of classes ranked 2, 3, 4, 5, 6, and 7 respectively in Cluster 4.
# Table 1
Teachers’ Choice of Graduate School Based on Attributes

<table>
<thead>
<tr>
<th>Cluster</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>17.2% (45)</td>
<td>48.1% (126)</td>
<td>17.2% (45)</td>
<td>17.6% (46)</td>
</tr>
<tr>
<td>Inputs</td>
<td>Program Background Rank 7 (100.0%)</td>
<td>Program Background Rank 1 (19.8%)</td>
<td>Program Background Rank 6 (68.9%)</td>
<td>Program Background Rank 2 (100.0%)</td>
</tr>
<tr>
<td></td>
<td>Mode of Classes Rank 1 (100.0%)</td>
<td>Mode of Classes Rank 3 (26.2%)</td>
<td>Mode of Classes Rank 4 (53.3%)</td>
<td>Mode of Classes Rank 7 (100.0%)</td>
</tr>
<tr>
<td></td>
<td>Cost Rank 3 (100.0%)</td>
<td>Cost Rank 1 (38.1.0%)</td>
<td>Cost Rank 2 (56.60%)</td>
<td>Cost Rank 4 (100.0%)</td>
</tr>
<tr>
<td></td>
<td>Campus Location Rank 4 (100.0%)</td>
<td>Campus Location Rank 5 (22.20%)</td>
<td>Campus Location Rank 3 (44.4%)</td>
<td>Campus Location Rank 1 (100.0%)</td>
</tr>
<tr>
<td></td>
<td>Influence Rank 6 (100.0%)</td>
<td>Influence Rank 7 (55.6%)</td>
<td>Influence Rank 5 (40.0%)</td>
<td>Influence Rank 5 (100.0%)</td>
</tr>
<tr>
<td></td>
<td>Faculty Rank 5 (100.0%)</td>
<td>Faculty Rank 6 (25.4%)</td>
<td>Faculty Rank 5 (37.8%)</td>
<td>Faculty Rank 6 (100.0%)</td>
</tr>
<tr>
<td></td>
<td>Name of School Rank 2 (100.0%)</td>
<td>Name of School Rank 2 (31.7%)</td>
<td>Name of School Rank 1 (80.0%)</td>
<td>Name of School Rank 1 (100.0%)</td>
</tr>
</tbody>
</table>

## Choice of Attributes by Choice-based Conjoint Result

# Table 2
Individual Attributes Level Utilities

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Source</th>
<th>Utilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of School</td>
<td>DOSCST</td>
<td>-0.182</td>
</tr>
<tr>
<td></td>
<td>HCDC</td>
<td>-0.522</td>
</tr>
<tr>
<td></td>
<td>UM</td>
<td>-0.432</td>
</tr>
<tr>
<td></td>
<td>USEP</td>
<td>1.135</td>
</tr>
<tr>
<td>Mode of Classes</td>
<td>Main campus</td>
<td>0.592</td>
</tr>
<tr>
<td></td>
<td>Off campus</td>
<td>-0.377</td>
</tr>
<tr>
<td></td>
<td>Online/Virtual</td>
<td>-0.215</td>
</tr>
</tbody>
</table>
Table 2 showed the individual attributes level utilities of teachers’ choice of graduate school with 24 independent parameters. The negative values means that teachers did not prefer the levels of attributes. Name of school attribute level vis-à-vis USEP gained bigger utility value of 1.135 compared to HCDC, UM, and DOSCST. Ceja (2006) reported that school as an academic environment has an impact on the choice of further studies and career. Then, on the mode of classes attribute level vis-à-vis main campus had the greatest utility value of 0.592 compared to off campus and online or virtual classes. Li (2009) seconded that one main challenge for institutions is to discover how to better engage students in the communication processes that stimulate more substantial and frequent interaction with faculty. In campus location attribute level, within Davao Oriental had the greatest utility value of 0.409 compared to outside Davao Oriental and within City of Mati. Veloutsou, et. al (2004) and Briggs (2006) furthered campus and location to appreciate in choosing a graduate school. Among cost attribute level, ₱5,000 to ₱10,000 had the greatest utility value of 0.944 compared to ₱5,000 below, ₱10,001 to ₱15,000, and ₱15,000 above. Raposo and Alves (2007) highlighted cost and the study of Pimpa and Suwannapirom (2008) pinned tuition fees as the most influential factors in choosing to enroll a graduate school. Program background attribute level vis-à-vis level III accredited had the greatest utility value of 0.351 compared to level 1, 2, and 4 accredited. Condes (2016) supported that deciding what the graduate students expect from a graduate program is the most important step concerning graduate school. Faculty attribute level vis-à-vis MST graduate had a greatest utility value of 0.358 compared to MA graduate and PhD graduate. Wendler, et. al (2012) stated that the path fro graduate study to career is influenced by faculty. Finally, influence attribute level vis-à-vis employer had the greatest utility value of
0.759 compared to family or peer and personal. Looi, et al, (2014) claimed that best employers provide more opportunities for employees to develop and grow professionally and personally. In the like manner, Raddon and Sung (2009) agreed that employers recognize the value these graduates bring to the company. Furthermore, Carstarphen, et al. (2010) ascertained that employers need to partner with graduate programs in developing more applied opportunities for students. Correspondingly, Sobolevskaya (2015) stated that advice of teachers is a determining factor to include in choosing educational endeavor.

**Figure 1**

![Attribute Importance](image)

**Market Share of Product Profile**

Table 3 showed the product profile and their corresponding levels, utility and market share values which were used to stimulate market shares. It can be gleaned that profile 28 had the highest market share value of 8.232%. This means that teachers preferred DOSCST Graduate School at the Main Campus of the province of Davao Oriental, offered a cost from ₱5000–₱10,000, level II accredited academic curricular programs, Ph.D. graduate faculty, and influenced by employer. The college institution that offers profile 28 in the market caters the huge number of teachers which has the greatest number of teacher enrollees. Profile 28 was followed by profile 1 with 6.796% market share, profile 64 with 4.51%, profile 14 with 3.4% and profile 106 with 2.562%. This means that these products were less desirable or undesirable to teachers’ preference.

**Table 3**
<table>
<thead>
<tr>
<th>Product ID</th>
<th>Name of School</th>
<th>Mode of Classes</th>
<th>Campus Location</th>
<th>Levels</th>
<th>Program Background</th>
<th>Faculty</th>
<th>Influence</th>
<th>Utilities</th>
<th>Market share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profile 28</td>
<td>DOSCST Main campus</td>
<td>Within Davao Oriental</td>
<td>5000-10000</td>
<td>Level II Accredited</td>
<td>Ph.D. graduate</td>
<td>Employer</td>
<td>0.082</td>
<td>8.232</td>
<td></td>
</tr>
<tr>
<td>Profile 1</td>
<td>USEP Main campus</td>
<td>Outside Davao Oriental</td>
<td>5000-10000</td>
<td>Level III Accredited</td>
<td>Ph.D. graduate</td>
<td>Personal</td>
<td>0.068</td>
<td>6.796</td>
<td></td>
</tr>
<tr>
<td>Profile 64</td>
<td>DOSCST Main campus</td>
<td>Within Mati City</td>
<td>5000-10000</td>
<td>Level II Accredited</td>
<td>Ph.D. graduate</td>
<td>Employer</td>
<td>0.045</td>
<td>4.510</td>
<td></td>
</tr>
<tr>
<td>Profile 14</td>
<td>DOSCST Main campus</td>
<td>Within Davao Oriental</td>
<td>5000-10000</td>
<td>Level III Accredited</td>
<td>Ph.D. graduate</td>
<td>Personal</td>
<td>0.034</td>
<td>3.400</td>
<td></td>
</tr>
<tr>
<td>Profile 106</td>
<td>USEP Main campus</td>
<td>Outside Davao Oriental</td>
<td>5000-10000</td>
<td>Level III Accredited</td>
<td>MA graduate</td>
<td>Personal</td>
<td>0.026</td>
<td>2.562</td>
<td></td>
</tr>
<tr>
<td>Profile 117</td>
<td>DOSCST Main campus</td>
<td>Within Davao Oriental</td>
<td>5000-10000</td>
<td>Level I Accredited</td>
<td>Ph.D. graduate</td>
<td>Personal</td>
<td>0.025</td>
<td>2.516</td>
<td></td>
</tr>
<tr>
<td>Profile 77</td>
<td>USEP Main campus</td>
<td>Within Davao Oriental</td>
<td>5000 below</td>
<td>Level IV Accredited</td>
<td>Ph.D. graduate</td>
<td>Personal</td>
<td>0.020</td>
<td>1.975</td>
<td></td>
</tr>
<tr>
<td>Profile 22</td>
<td>DOSCST Main campus</td>
<td>Within Mati City</td>
<td>5000-10000</td>
<td>Level III Accredited</td>
<td>Ph.D. graduate</td>
<td>Personal</td>
<td>0.019</td>
<td>1.863</td>
<td></td>
</tr>
<tr>
<td>Profile 68</td>
<td>USEP Main campus</td>
<td>Outside Davao Oriental</td>
<td>10001-15000</td>
<td>Level III Accredited</td>
<td>Ph.D. graduate</td>
<td>Personal</td>
<td>0.018</td>
<td>1.798</td>
<td></td>
</tr>
<tr>
<td>Profile 8</td>
<td>USEP Off campus</td>
<td>Within Davao Oriental</td>
<td>5000-10000</td>
<td>Level IV Accredited</td>
<td>Ph.D. graduate</td>
<td>Personal</td>
<td>0.018</td>
<td>1.781</td>
<td></td>
</tr>
<tr>
<td>Profile 49</td>
<td>DOSCST Main campus</td>
<td>Within Mati City</td>
<td>5000-10000</td>
<td>Level II Accredited</td>
<td>Ph.D. graduate</td>
<td>Personal</td>
<td>0.017</td>
<td>1.672</td>
<td></td>
</tr>
<tr>
<td>Profile 36</td>
<td>DOSCST Main campus</td>
<td>Within Davao Oriental</td>
<td>5000 below</td>
<td>Level III Accredited</td>
<td>Ph.D. graduate</td>
<td>Personal</td>
<td>0.014</td>
<td>1.430</td>
<td></td>
</tr>
<tr>
<td>Profile 58</td>
<td>UM Main campus</td>
<td>Outside Davao Oriental</td>
<td>5000-10000</td>
<td>Level III Accredited</td>
<td>Ph.D. graduate</td>
<td>Personal</td>
<td>0.014</td>
<td>1.418</td>
<td></td>
</tr>
<tr>
<td>Profile 5</td>
<td>USEP Main campus</td>
<td>Outside Davao Oriental</td>
<td>15000 above</td>
<td>Level III Accredited</td>
<td>Ph.D. graduate</td>
<td>Personal</td>
<td>0.014</td>
<td>1.401</td>
<td></td>
</tr>
</tbody>
</table>

Product Profile and their Corresponding Levels, Utility and Market Share Values
Conclusion

This study was conducted to find out the teachers’ choice of graduate school vis-à-vis enrolment based on the following attributes: faculty, mode of classes, cost, influence, campus location, program background, and school name. It also aimed to determine the teachers’ choice
of graduate school vis-à-vis enrollment influenced by the attributes through choice-based conjoint analysis and also to determine the market shares of each product profile.

In summary, program background is the most important attribute during direct ranking. It was followed by mode of classes, cost, campus location, influence, faculty and school name. By choice-based conjoint analysis, name of school was the most important attribute in the overall attribute derived from the generated utilities of individual attribute levels. Through market share of product profile, the teachers preferred a graduate school influenced by the attributes revealed in product profile 28 which teachers preferred to enroll at DOSCST Graduate School at the Main Campus of the province of Davao Oriental, offered a cost from ₱5,000 to ₱10,000, level II accredited academic curricular programs, Ph.D. graduate faculty, and influenced by employer.

Suggestions and Recommendations

Based on the findings and conclusions, it is recommended that program background might be considered by teachers when they choose to enroll a graduate school. To retain and attract more teachers to patronize the services offered by a graduate school, the product profile 28 with the highest market share may be adapted that consisted of a cost from ₱5,000 to ₱10,000, level II accreditation in curricular programs, Ph.D. graduate faculty, and influenced by employer. Finally, similar studies are recommended in wider scope of samples to capture a more generalized conclusion. Also, other relevant factors of choosing a graduate school and another kind of conjoint methodology are recommended to compare the result and determine which yield good results.

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