"You Can Count on It!"
Using County Auditors' Data for Marketing Research Group Projects

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Introduction

Marketing educators who teach research-based courses face several challenges in the designing and teaching of analytical-based group projects. The "ideal" research project contains all the elements of the research process as shown in Figure 1 (Neuman 2009, Zeis, Shah, Regassa, & Ahmadian 2001). Fewer pedagogical limitations would exist, such as a limited 16-week semester and time constraints relating to selecting a topic, survey development and distribution, institutional review board approvals, and of course data collection to name a few.

Figure 1

■ **Figure 1.5** Steps in the Research Process: From NEUMAN *Basics* 2nd ed., Figure 1.1
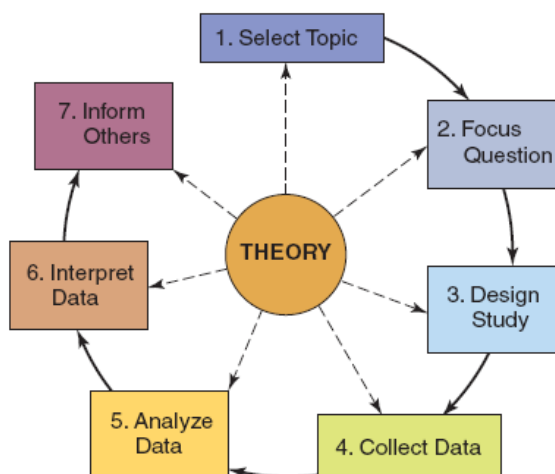
Source: Neuman, Basics 2/e Neuman, W. Lawrence 2007. Basics of Social Research, 2nd ed. Allyn & Bacon.

The challenges we educators face relate to the difficulty in effectively "squeezing in" all these steps into a semester-long course. To alleviate this problem, yet maintain the integrity of the research process, a class group project was designed focusing on the use of county auditor's data obtainable through the internet. The use of secondary data from the internet in the teaching of marketing

research was discussed as early as 1998 (Siu & Chau 1998) with focus on "trying to get" students to use the internet. Obviously, student progress has been made in internet usage and literacy over the past 17 years. This paper focuses specifically on the benefits of using auditors' data, to which limited/no research has not been published.

The Project Process

Step 1 (Select Topic) and Step 2 (Focus Question)

The idea of a class project based on the usage of auditors' data developed when the author was asked to work with a community foundation (grant related) on the analysis of data to generate supporting information on housing variables tied to economic development. Students were presented with the background information (Steps 1 and 2 of Research Process) by a class-presentation by a community leader. The leader explained the purpose and goals of the project with the expectation that student groups would complete the data analysis and provide a presentation to the community leader at the end of the semester. This proved to be a "good fit" as experiential learning opportunities are intentionally embedded in the curriculum of each course at the author's university due to the enhanced understanding and learning of active-learning, specifically in statistics/research-based courses (Hakeem 2001).

Step 3 (Designing the Research Study)

The study was designed such that students were divided into four groups with each group responsible for analyzing and presenting results specific to one of four "wards" within the community under consideration. Due to the nature of the research, each student and the faculty member had to obtain individual human subject research course training and certification (Collaborative Institutional Training Initiative (CITI) Program through the University of Miami). The project as a whole had to meet university institutional review board (IRB) approval for the research, even though under "exempt" status because the data was secondary data (already existing).

Step 4 (Collecting Data)

The faculty member discussed with students how in a "real business environment" data is not typically "handed" to an employee to evaluate – the employee typically has to design the research approach, addressing the question at hand, and determine a method for collecting/gathering the data. Furthermore, student-generated data for a course is beneficial, yet also time-consuming (Boger 2001, Stork 2003).

Due to size of the data set needed for this project (approximately 8000 properties for the community), the GIS Director for the County Auditor ran a search of all properties within community and created a spreadsheet file. The instructor, in turn, shared this data file with each student. Students could have pulled the data from the auditor's website; however, it would have been a very lengthy process in order to obtain all the required data for the project.

Students were initially very surprised by the level of data obtainable from the auditors' website regarding property values, maps, owners' names, etc. This led into a good class discussion on internet data accessibility, confidentiality, and transparency. (Note: Owners' names were removed from the dataset passed on to the students). The spreadsheet data set contained the following variables from the county auditor's website for the specific community under consideration: Parcel Number, Building Type, Effective Year, Condition, Quality Grade, Asset Value, Tax District, House Number, Street Name, Street, City, State, Zip, Owner (data removed from spreadsheet), Site Address, Tax District Description, DTE Code, DTE Code Description, Tax Status, Ward, Precinct, Land Value, Building Value, and Total Value.

Step 5 (Analyze Data)

Students had ultimate control over how they analyzed the data with the guidelines of the research project in mind and available tools: SPSS on university computers, textbooks, websites, availability of instructor, etc. The instructor iterated that in the "real business environment" bosses typically do not tell employees exactly what statistical tools to use in analyzing and presenting. It is up to the employee(s) to determine the best approach. Each group (ward) determine the approach they wanted to take in data analysis and presentation. All groups use the SPSS tool for data analysis. Most groups chose to do a combination of basic descriptive statistics including frequency diagrams, box plots, standard deviations, and outliers to show housing value distributions. Some groups chose to show results using simple mapping techniques. The results varied, but in general, were all very effective and provided a good learning experience for the students.

In addition, as part of the Marketing Research course, the course material was supplemented by using the AMA Collegiate Certification Programs with the video series on Marketing Research which addressed six modules covering the topics of 1) An Introduction to the Program and to the Research Industry, 2) Research Methods, 3) Data Collection Methods, 4) Data Analysis, 5) SPSS Tutorial, and 6) Online Surveys (Survey Monkey). Students who were members of AMA benefitted from this course supplement as they also earned their AMA Marketing Research Certification at the end of the course. SPSS training was introduced using the AMA video series and further developed using the course textbook (Burns & Bush 2014).

Step 6 (Interpret Data) and Step 7 (Inform Others)

As previously mentioned, each group decided on the approach they wanted to take in analyzing the data for their specific ward. The last class session was devoted to class presentations by group/ward to the community leader, who expressed great appreciation for the work of the student groups.

Student Feedback

At the end of the course, students were asked to complete an online survey asking for an evaluation/feedback on the auditor's data project. The results were positive with questions and supporting results as follows:

Please give each of the following questions a rating of 1 to 5:

1 = No increase
2 = Slight increase
3 = Moderate increase
4 = Substantial increase
5 = Exceptional increase

To what degree did the community-based research project help increase your understanding of the research process? mean = 3.85, s.d. = 0.90, $n = 13$

To what degree did the community-based research project help increase your understanding of how to use SPSS software? mean = 3.92, s.d. = 1.19, $n = 13$

Discussion

This project and specifically the use of auditors' data provided many pedagogical benefits to the instructor of a marketing research course. These benefits include, but are not limited to, the following:

1) Students are participating in an experiential-learning based project, shown to enhance learning beyond the traditional classroom environment.
2) Auditors' data is rich is volume and quantity. The data changes each year, so faculty do not have to be concerned with students "cheating" – the results will be different from year-to-year.
3) This project can be done in any community, with the help of the GIS director at the auditors' office. If this individual is not able to provide assistance,

students can access the information by-hand or the project can be modified to make the data acquisition off the auditors' site manageable.

4) Students enjoyed doing the analysis as they knew they were working with "real data" – not data supplied out of a textbook. They could connect with the significance of a working on data tied to an actual community.

5) Students benefitted by learning how to use SPSS software and create project reports, as noted by the survey results.

6) Students were able to gain AMA Collegiate Marketing Research Certification, as this video series was tied to class teaching.

7) Auditors' data can also be used to develop multiple regression models for a statistics course. (Note: The author developed a regression-based project for another course, Research Methods, required for all business majors within the respective school.)

8) The author intends to repeat this project with future Marketing Research classes using a different small city within the same county. More student feedback data will be collected using the same questions.

In closing, the use of auditors' data in the teaching of marketing research provides a rich, timely, and low-cost resource for both students and faculty.

Appendix 1: Auditor's Data Analysis and Reporting Project

BUS 3XX: Marketing Research
(200 points maximum; 20 % of your final grade)
Paper: Uploaded by 11:55 pm on Due Date
Presentation: Date Class Time

Class Groups
Group 1: 4 Students (Ward 1)
Group 2: 4 Students (Ward 2)
Group 3: 4 Students (Ward 3)
Group 4: 4 Students (Ward 4)

Purpose:
The purpose of this assignment is to give students a group experience data using SPSS Data Analysis Software, presenting the findings to the class, and writing a research paper stating the results and conclusions of the project.

Situation:
A community leader visited our class a few weeks ago to explain the background and goals of this project as it is affiliated with a community grant. Please reflect on what he discussed as you complete the project requirements.

A data file created by the County Auditor's office is provided to each student in the class. Students are responsible for evaluating the data in order to determine the distribution and grade of residential properties by ward within the community. As a whole the class is to discuss what type of analysis each group should conduct on the entire data set and what type of analysis each group should conduct on the residences within each ward. Please take into consideration descriptive statistics tools that would be beneficial to use – both on individual variables and for bi-variate or multi-variate analysis (averages, distributions, frequency diagrams, cross-tabulation tables, etc.). Also, the data file should include the addition of "code book" information as part of the analysis, such that the characteristics of each variable are defined. The final modified data file should also be uploaded when the report is submitted.

As stated in your course syllabus:
The research paper will be worth 75 points and will comprise 7.5% of your final grade.
Follow the steps in your textbook for conducting a research study. The data is already being provided to you; however, this is still a full research project which includes "cleaning" the data to be able to use the data your group needs (specific to your ward), analyzing the results and making recommendations that directly and effectively tie back to the original research problem. The project analysis and narrative will include those critical elements. A template for writing the research paper will be available for teams to consult, however, each team is welcome to add to or modify (as appropriate) the contents of its narrative. Each team is to submit one paper which should include the names of the group members on the cover.

The narrative will be an appropriate length – usually 15-20 pages, double-spaced with one-inch margins and 12 point font. Tables that summarize the statistical or content analysis are appropriate for the body of the narrative. However, use discretion so that the majority of your narrative does not become one table after another – which will limit your ability to analyze and report the findings appropriately within the page limits.

The research presentation will be worth 75 points and will comprise 7.5% of your final grade. Each group will present a comprehensive summary of their marketing research project. Based upon the total class enrollment, a maximum time will be identified for each presentation. If the presentation extends beyond the allotted time (before questions are fielded), time will be up and the presentation grade will be adjusted accordingly. It is highly recommended that the student provide handouts.

The professor will grade on the content of each presentation (exclusive of handouts, etc.). Evaluative criteria will be based upon each group's ability to effectively and professionally present their research project.

It's very important to note that those not presenting are required to be active listeners! The professor will ask those "in the audience" about a topic and/or issue offered by a presenter. In addition, class participation scores will be reflective of each class member's questioning and input during the presentations. It is important for students to be respectful of other students when giving presentations.

The group peer grade will be worth 50 points and will comprise 5% of your final grade. Reply to the email the professor sends to you regarding your group peer grade.   Please be sure to read the details on how to complete the evaluation. The email will be sent out the day the day the final portion of the project is due.

Enjoy doing the project!!!

References

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Keywords: *marketing research, marketing education, secondary data, data collection, data analysis, institutional review board*

Relevance to Marketing Educators, Researchers, and Practitioners: This research is relevant to marketing educators in that it provides an example of a successful process and corresponding benefits associated with using auditors' data in teaching marketing research.

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Dr. Szendrey is a Professor of Business at Walsh University in The DeVille School of Business where she has taught in the areas of marketing and research methods and serves as the American Marketing Association faculty advisor. Her research interests are in areas of consumer behavior, teaching pedagogy, and student leadership development. Dr. Szendrey holds a Doctorate of Business Administration degree from Anderson University and, from the University of Dayton, a Masters of Business Administration and a Bachelors of Mechanical Engineering (cum laude). She is also certified as a Professional Certified Marketer (PCM) by the AMA.

TRACK: Marketing Education