**WEEK 5 – INSTRUCTIONS**

**For this assignment you are to compute inferential statistics (i.e., hypothesis testing) on your two variables and discuss your findings. You need to include your calculation or write-up of your inferential statistics in the paper using a table and a brief discussion. If you calculated your statistics using Excel include both the spreadsheet showing your data along with your statistical calculations. If you do your statistics by hand you must discuss/show/include the actual values used in the calculation in the paper.**

**Calculate**an inferential statistic test (i.e., hypothesis test) usingthe research question and two variables your learning team developed for the Week 2 Business Research Project Part 1 assignment – **papers are included below**. (i.e., the same research question you have been using for all the team and individual assignments from Week 2). Include the following in your paper:

* The research question (you are repeating the research question again for this section)
* Mock data for the independent and dependent variables (Your data may have needed to be changed in order to run inferential statistics - you need either one numeric dependent variable and one categorical (i.e., grouping variable such as gender, time period (time 1 and time 2), group 1, group 2, etc.) variable or two numeric variables in order to compute inferential statistics.

**Determine** the appropriate statistical tool to test the hypothesis based on the research question.

**Conduct** a hypothesis test with a 95% confidence level, using the statistical tool.

**Write**an interpretation of no more than 350-words of the results and provide your findings. Were you able to reject or not reject the null hypothesis. What is your conclusion based on rejecting or not rejecting the null hypothesis with respect to your research question?

**Format**your paper consistent with APA guidelines.

**Submit** both the spreadsheet and the paper to the Assignment Files tab.

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# The Sampling Design and Data Collection (Week 3)

# *Student*

# QNT/561

March 7, 2016

Dr. Heidi Carty

The Grocery Store*,* which created its name and brand by selling high-quality foods, is now losing sales and market share to generic store brands that actively seek out the high-quality, low price supplies. Customers' tastes and preferences are changing, and they are now looking for a different, less-expensive shopping experience while still getting the quality and super healthy options they are craving. The entire supermarket industry is changing and evolving to a new form where the chain stores and discount stores are winning prestigious culinary awards that used to be dominated by high-end specialty organic and whole foods grocery stores.

 In the Week 2 Business Research Project Part 1 assignment, our Learning Team A has decided to investigate whether there is a strong relationship between the monthly sales of The Grocery Store and the offering of private label whole/organic foods. Our Team A is creating one independent variable ``the offering of private label whole/organic foods", and the dependent variable ``the monthly sales of The Grocery Store."

**Target Population and Size**

 The target population is the monthly sales of The Grocery Stores. The population size is the total number of The Grocery Stores. In order to study the research question ``Is there a strong relationship between the sales at The Grocery Store and the launch of low price, private label whole/organic foods?'', we need to estimate the monthly sales of all The Grocery Stores.

**Data Collection**

 We will use a simple random sampling method to collect our data. In particular, we will randomly select a sample of 200 stores from all The Grocery Stores. This selection process can be done easily using a computer program as we can label all The Grocery Stores from 1 to *N*, where *N* is the total number of The Grocery Stores. We will give out a survey to the 200 selected stores. The questions in the survey are listed as follows:

1. Where is the location of your store?
	1. City
	2. State
2. What is the size (in square feet) of your store?
	1. Less than 20,000 square feet
	2. 20,000 to 30,000 square feet
	3. 30,001 to 40,000 square feet
	4. Greater than 40,000 square feet
3. How many full-time employees are there at your store?
	1. Less than 50
	2. 50 to 60
	3. 61 to 70
	4. More than 70
4. What are the total average weekly sales for your store?
	1. Less than $200,000
	2. $200,000 to $300,000
	3. $300,001 to $400,000
	4. More than $400,000
5. What are your top selling organic food products (circle all that apply)?
	1. Natures Path
	2. Sunshine Burger
	3. Eden Foods
	4. Braggs
	5. Food for Life
	6. Other – Fill in the blank \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. What percentage of your total weekly sales is from organic foods in your store?
7. Less than 4%
8. 4% to 7%
9. 7.1% to 11%
10. More than 11%

 We will send out the above survey questions to each of the 200 stores by mail. We will also send an email to each of the sample stores explaining what our goal of the survey is, why we are conducting the survey, and when the surveys should be mailed back to corporate. The data will be collected after each store sends back the answered survey papers. We can put the data into an excel spreadsheet and password protect it.

**Validity and Reliability**

Since we use a valid sampling method when collecting our data, and the sample size n=200 is large, any conclusion made from this data would be considered reliable and valid. If another group of researchers uses the same method, they will obtain similar results.

**Conclusion**

 In summary, by conducting a brief yet concise survey, The Grocery Store organization will be able to gather valuable data from their sampling pool which will help them make company-wide business growth decisions. Based on the survey results, The Grocery Store will need to determine their next steps in successfully building their organic/whole food market share.

References

Anderson, D.R., Sweeney, D.J., Williams, T.A., Camm, J.D., & Cochran, J.J. (2015). Essentials of statistics for business and economics. (7th ed.). Stamford, CT: Cengage Learning

Statista. (n.d.). Average per store number of full-time equivalent employees (FTE) of supermarkets in the United States from 2011 to 2013. Retrieved from http://www.statista.com/statistics/240965/average-per-store-number-of-ftes-of-us-supermarkets/

Statista. (n.d.). Average weekly dollar sales per supermarket store in the United States from 2012 to 2014 (in U.S. dollars). Retrieved from http://www.statista.com/statistics/240966/average-weekly-sales-per-us-supermarket-store/

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Appendix

Find the sample size using a 95% confidence level, and a 5% margin of error for the population proportion.

**Answer**: For a 95% level of confidence, we can look up the z-table to get the z-critical value z=1.960. Given the margin of error ME=0.05.

Here we use  and the formula: .

Thus: 

Solving for n, we will get: 

Hence, the minimum sample size would be 385.

Team A - Business Research Project (Week 2)

*Team Members*

QNT/561

February 29, 2016

Dr. Heidi Carty

Team A - Business Research Project

The objective of this paper is to establish whether there is a strong relationship between the monthly sales of The Grocery Store as the dependent variable and the offering of private label whole/organic foods as the independent variables. The paper also details the background of The Grocery Store, the business problem, our team’s role, and the associated hypothesis.

**Background of The Grocery Store**

Organic and whole foods are the new trends for grocery consumers, the new hype and health consciousness is shaping the market parameters for grocery marketplace industry where cut throat competition is increasing. Generic brands are now competing aggressively with organic and whole food brands by increasing focus on quality and still keeping very competitive prices.

The Grocery Store*,* which created its name and brand by selling high quality, organic foods is now losing sales and market share to generic store brands that actively seek out the high-quality, low price supplies. Customers’ tastes and preferences are changing, and they are now looking for a different, less-expensive shopping experience while still getting the quality and super healthy options they are craving. The entire supermarket industry is changing and evolving to a new form where the chain stores and discount stores are winning prestigious culinary awards that used to be dominated by high-end specialty organic and whole foods grocery stores.

**Business Problem**

The Grocery Store is currently not a leader in the sale of whole foods, as some of its competitors are leading the way. Management wants to gain a competitive edge over its competitors in the whole foods segment of the grocery industry while at the same time increasing profits. Grocery Store’s management wants to know how it can successfully achieve this goal.

**Our Team's Role**

Team A believes TheGrocery Storeis not following tactically important and proper stepsto increase profits and become a major competitor in the whole/organic foods supply industry. To focus the team’s efforts effectively, two central questions have been formulated that directly relate to both independent and dependent variables. The dependent variable is the monthly sales volume which has a direct impact on the growth, sustainability, and profitability of The Grocery Store. The independent variable is the proposed offering of The Grocery Store Brand of whole/organic foods of exceptional quality at lower prices than similar foods of its competitors. With that stated, the research question we have formulated has two parts. The first part asks: How will The Grocery Store brand of foods be received by the consumer as it relates to other brands and offerings by well-known companies in the food industry? The second component of this question relates to profits. Does The Grocery Store brand have the potential to increase the monthly sales volume?

**Hypothesis Statements**

The hypothesis is made by limited evidence on what we are researching or what we would like to prove. The information doesn’t have to be true; it gives us limited evidence as a starting point to further investigate. During this process, it is important to build models that help describe your perceptions. Our first hypothesis is that there is a positive connotation between increasing sales and the launch of low priced organic foods at The Grocery Store. The second hypothesis is if The Grocery Store wants to attract new customers it will need to run more promotions.

In this paper, we are discussing how the leadership in whole food stores can make their stores competitive while increasing their finances. We decided on these five probabilities:

* Advertising
* Free Samples
* Multiple Pricing
* Loss-leading Pricing
* Below Competition

**Conclusion**

In summary, the topic of this research study is extremely relevant to doing business in the current marketplace. In the 21st century, gaining market share has many aspects which cannot be overlooked. For example, healthy food options while observing economic factors must be incorporated to guarantee business success and sustainability. Team A is ready to help The Grocery Store conduct the obligatory research to assist the company in elevating their profits.

Reference

Lind, D., Marchal, W., & Wathen, S. (2015). Statistical Techniques in Business & Economics (16th ed.). Retrieved from https://phoenix.vitalsource.com/books/1259698246/epubcfi/6/6[;vnd.vst.idref=body003]!/4/2[page\_iii]/2@0:0.00