

Optimizing Sales Force



PEPSICO



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Summary

- Gamesa, which is a subsidiary of Frito-Lay, is a Mexican Cookie company.
- Cookies and crackers targeted to Mexican Population.
- Currently dominates the Hispanic cookie market occupying 50 percent of the market.



Background

- PepsiCo bought Gamesa in 1990.
- Gamesa's main product is cookies but they also have a variety of products like pasta, flour, cereals.
- Number of Hispanics in the US is growing and counting.
- Hispanics have bigger sized households.

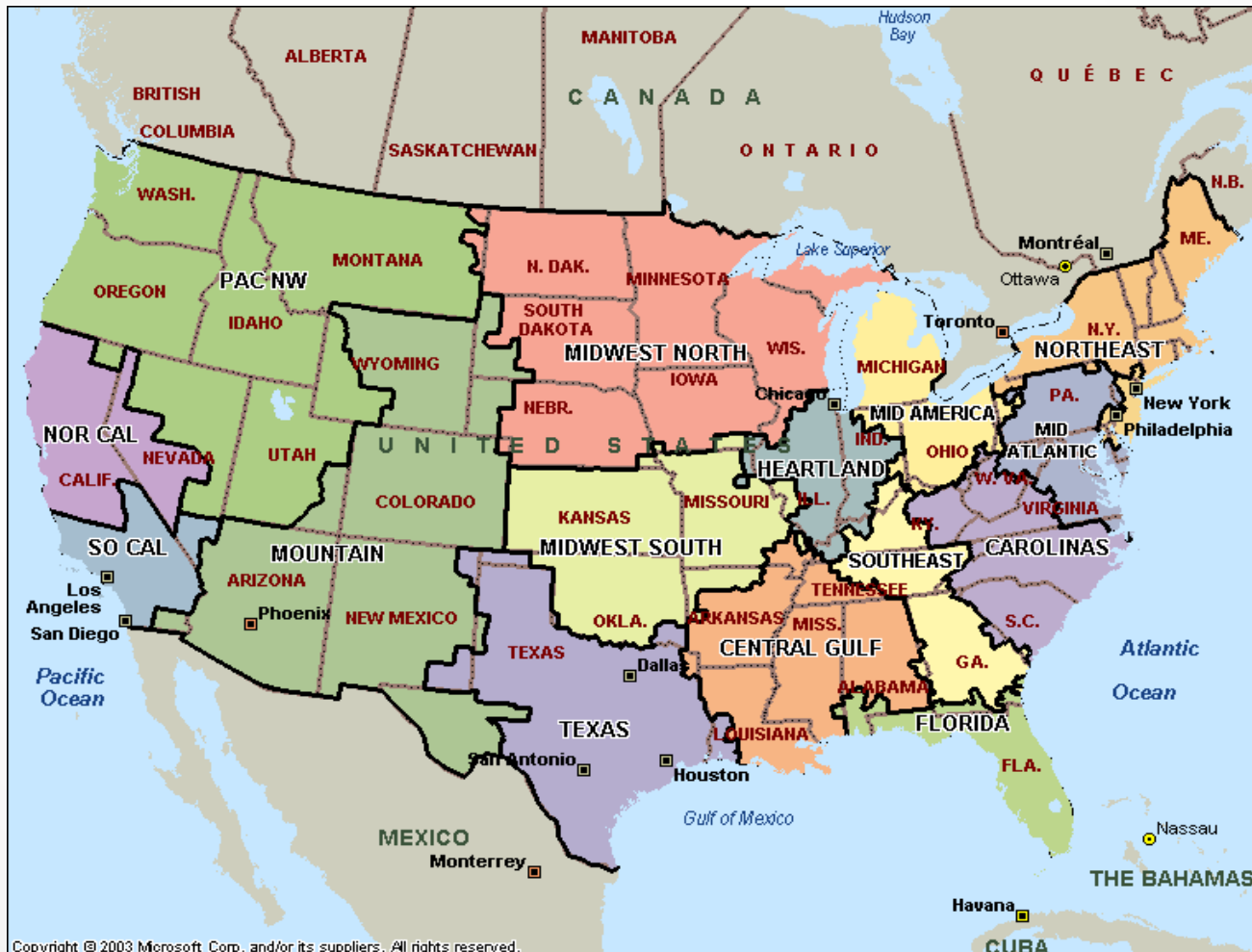


Description of the Problem

- Distribution around the United States with 38 representatives.
- 16 different regions, which are divided by the different routes to market (DSD), location of warehouses and population density.
- Main competitor: Bimbo
- Identify where new sales representatives could be placed
- which region a sales representative would be most useful and to forecast future a sales representative.



Regions



Analysis of the Situation

- We tried to come up with the different variables to help us define if another sales representative was needed.
- Variables included:
 - Mexican population per region
 - Sales per region
 - Number of sales representative
 - Market Share
 - Percentage of Presence in Stores
 - Competition



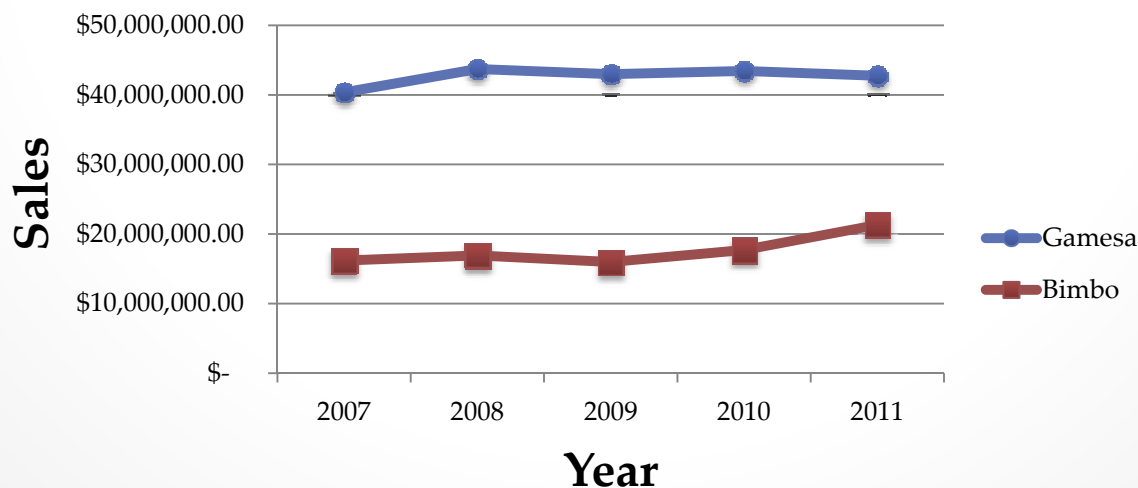
Mexican Population

- The most challenging variable
- Get the total Hispanic population per state, and then we divided the states per region, percentage wise.
- Get an idea of the regions that had the most Hispanic population density
- See where the population was moving through the past years.



Gamesa and Bimbo Sales

- Where was the most sales made through the past five years
- Sales information for Bimbo
- Total sales of Hispanic cookies
- Market share each firm had for the past five years per region.



Sales Representatives

- Broken down by city and by region.
- Some regions without sales reps.
- What cities and stores were visited by each representative,
- Reach of each representative
- Varied from region depending on the area and population density.



External Factors

- All information broken down per region so we could compare it
- How much a representative influenced on the sales number of each region?
- Each region was different and other different variables came in play
 - Economic Climate
 - Arizona Immigration Law
 - Illegal Immigrants
- Correlate all these factors to check efficiency of region



Technical Description of the Model

- Gamesa's sales for past 5 years.
- Regression model.
 - Multiple linear regression model, which takes in one or more independent variable and uses it to find their relation with the dependent variable.
 - For this model we chose the Sales per region as the dependent variables and chose for the independent variables we chose the number of sales people, the population, the number of stores and the percentage of stores in which Gamesa products are sold (all these numbers are by region).
 - Regression model gave us inconclusive data and that we would not use it to determine our final solution.



Data Envelopment Analysis

- The second model we used to help us reach a final solution was a Data Envelopment Analysis, or DEA.
- This model tries to find the efficiency frontier and helps us identify which of the 16 regions are efficient and which ones are not.
- This time the answer the model gave us was closer to the type of answer that we were looking for but it still showed some errors.
 - to achieve maximum efficiency, we had to lower the population of a region.
- Efficient Regions
 - Texas, Southern California, Carolina, New York and Central Gulf.
- Inefficient Regions
 - Northern California, Mountain, Pacific Northwest, Heartland, Midwest South, Midwest North, Florida, Southeast, Northeast, Mid Atlantic, and Mid America.
- The Region with the lowest efficiency rating is Heartland, and we completely agree with this result.



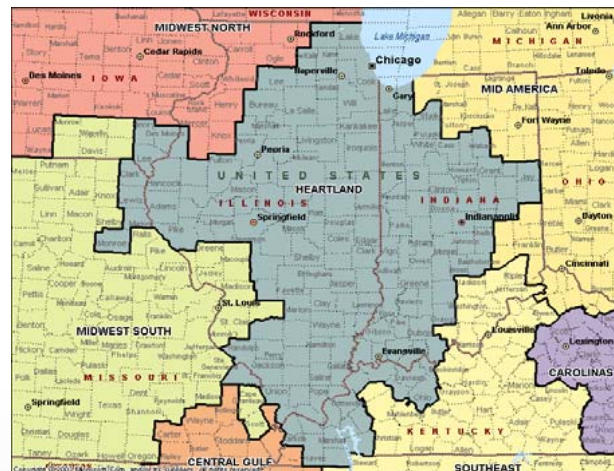
Analysis and Managerial Interpretation

- Models did not give us the results we were looking for
- Chose to Analyze using different data
- Kept model results in mind while analyzing data
- Some regions discarded because they were doing good or did not have much of an influence on total sales

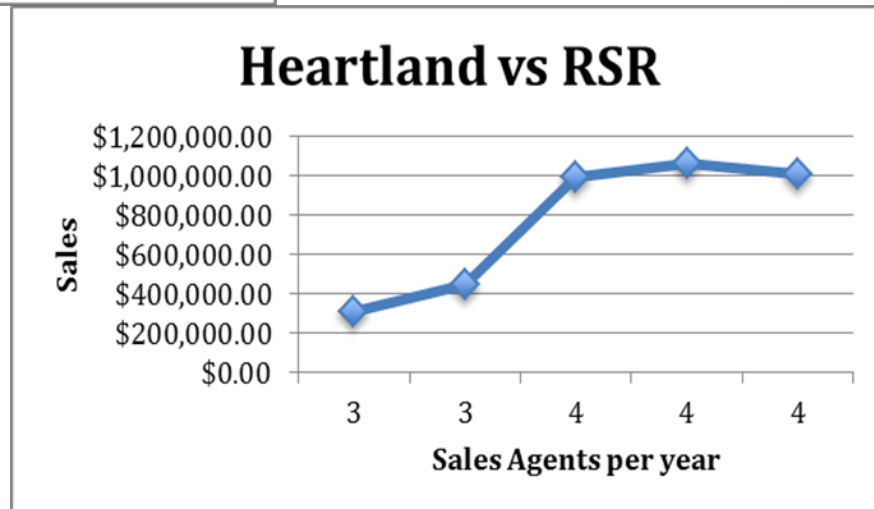
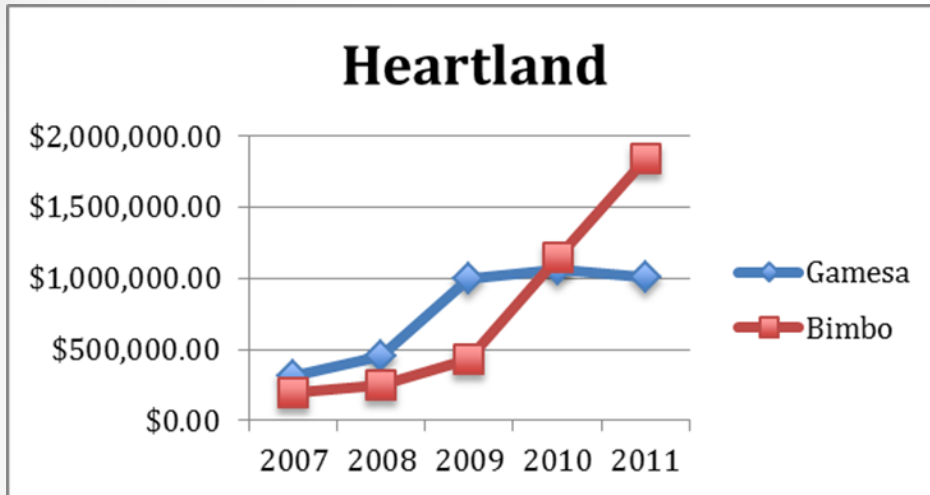


Heartland

- Most appropriate region to add a sales representative
- Data Envelopment Analysis shows Heartland was the most inefficient region
- Gamesa sales and market share has been surpassed by Bimbo's in the past 2 years.
- Large Mexican Population



Heartland Graphs

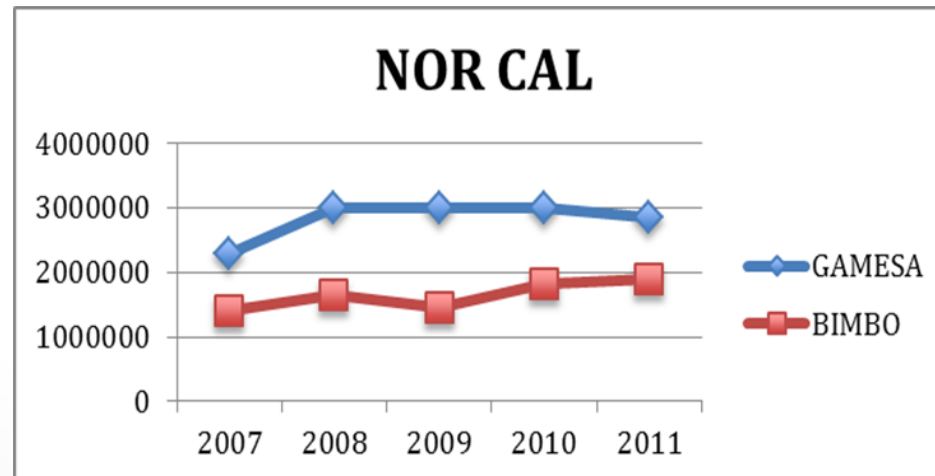
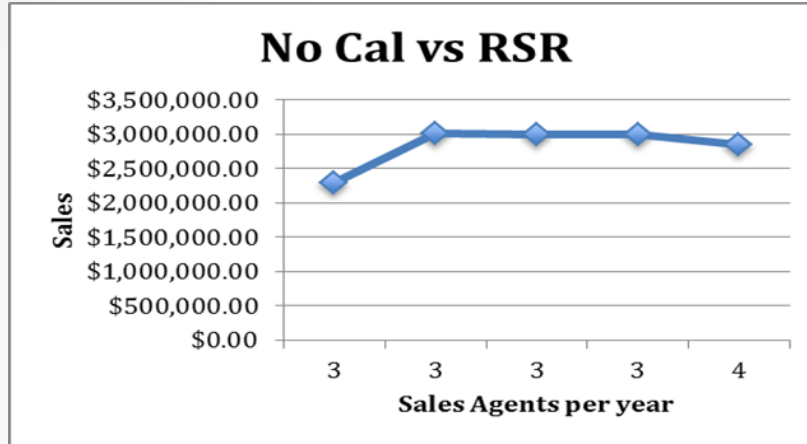


North California

- Fourth biggest sales
- Represents 7% of total Gamesa's sales.
- Four agents and has 49.7% of the market share while Bimbo has 33.1%.
- Mexicans might move north eventually so this region is a good place to add a new representative in the future.
- Add a sale representative

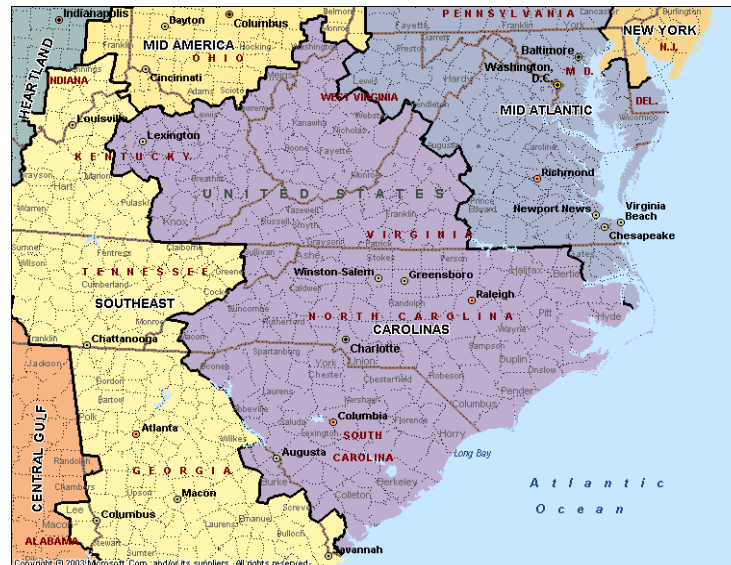


North California Graphs

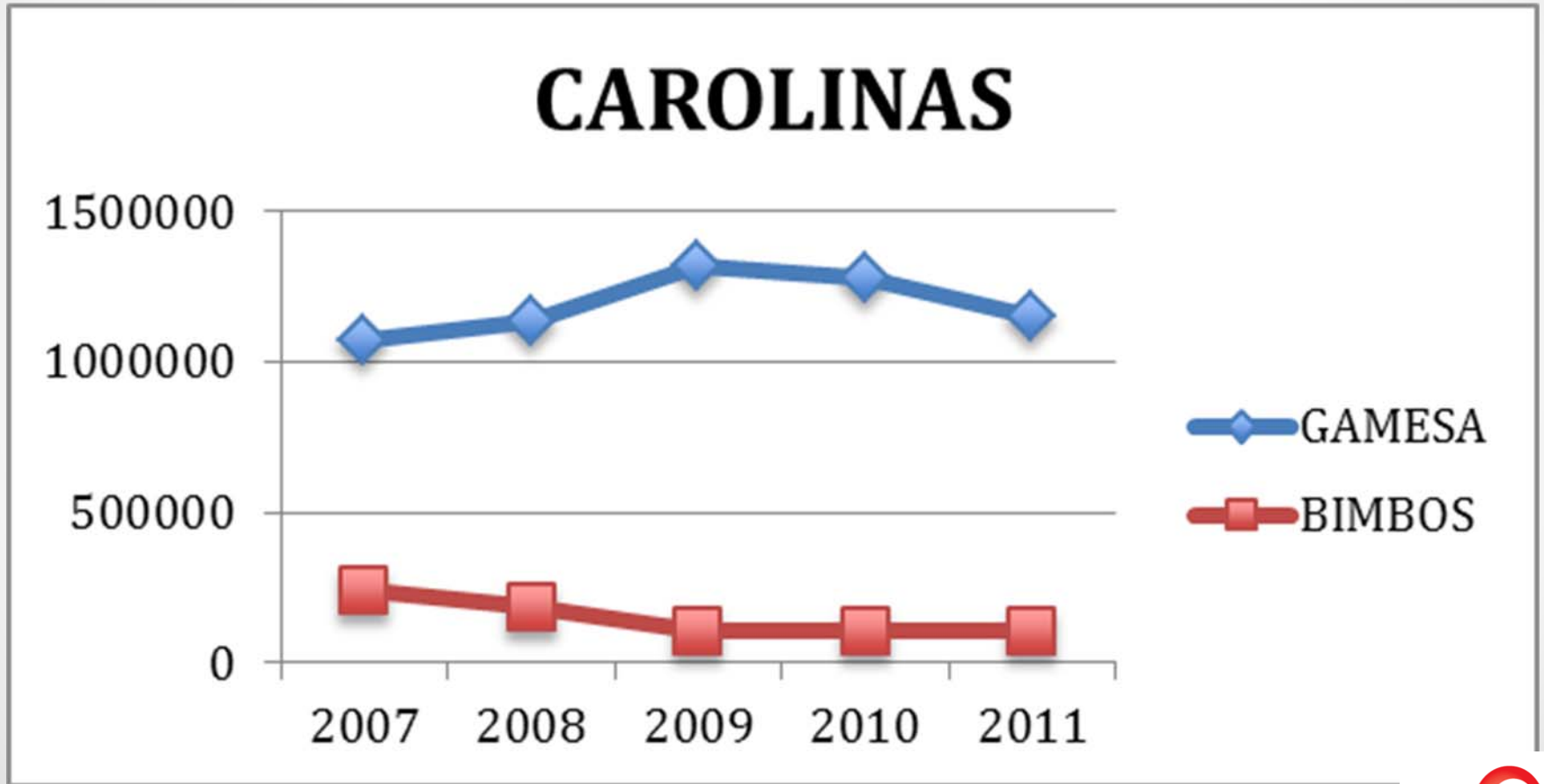


Carolinas

- -Gamesa market share with 76%
- -Bimbo has only 6% market share
- Medium Size Mexican Population
- Revisited in the future because of trends in Mexican migration.

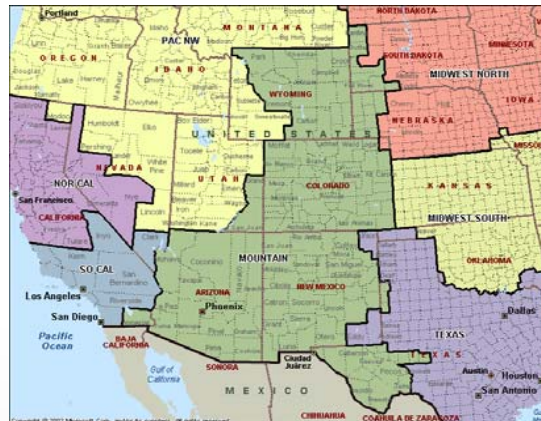


Carolinas Graphs

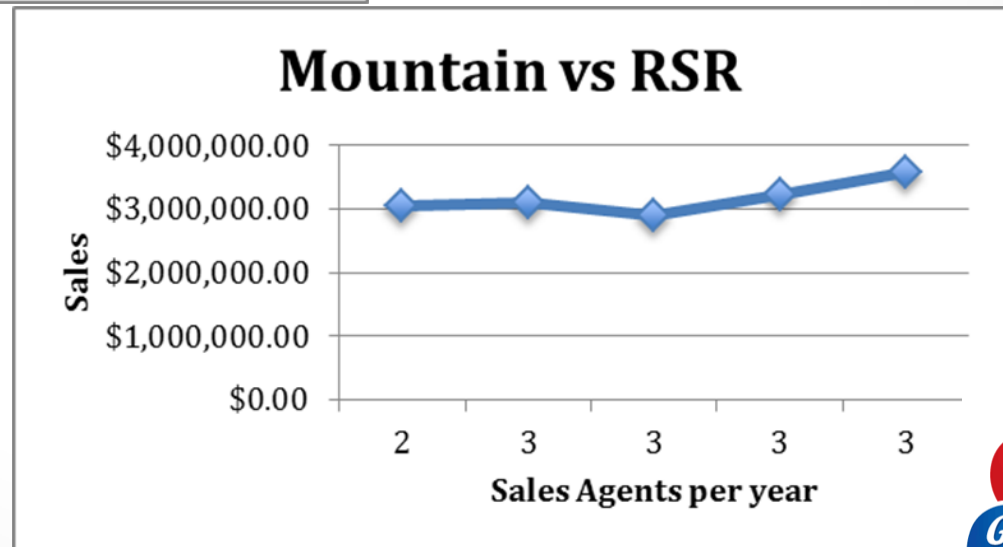
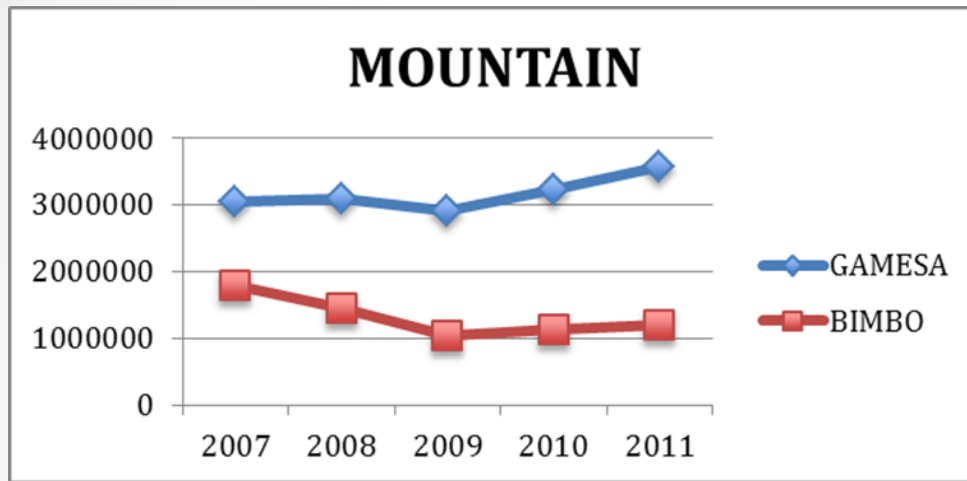


Mountain

- 3 sales representatives
- -Gamesa has 52% of the market share
- -Bimbo only has the 17%
- This region is likely to increase in population because of the immigration laws in borders states
- Take in consideration for future
- Only region to grow in both sales and market share this past year

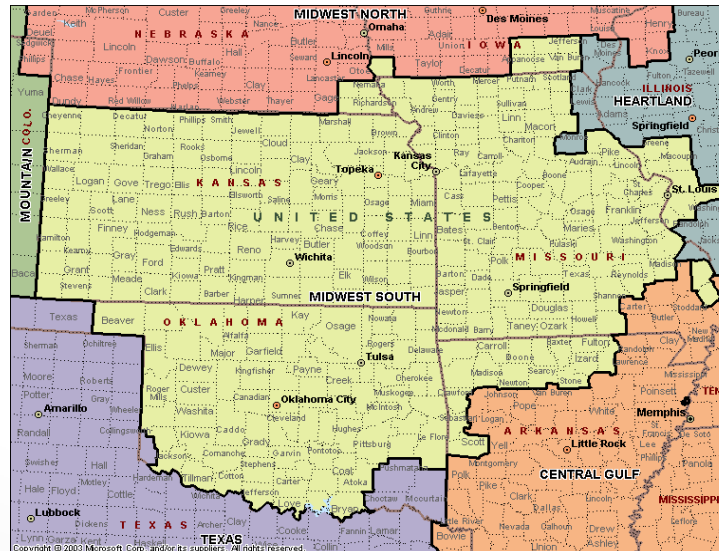


Mountain Graphs



Midwest South

- Stable market for the past four years
- -Gamesa Market Share 50.2%
- -Bimbo Market Share 30.2%.
- One sale representative
- Medium Mexican Population

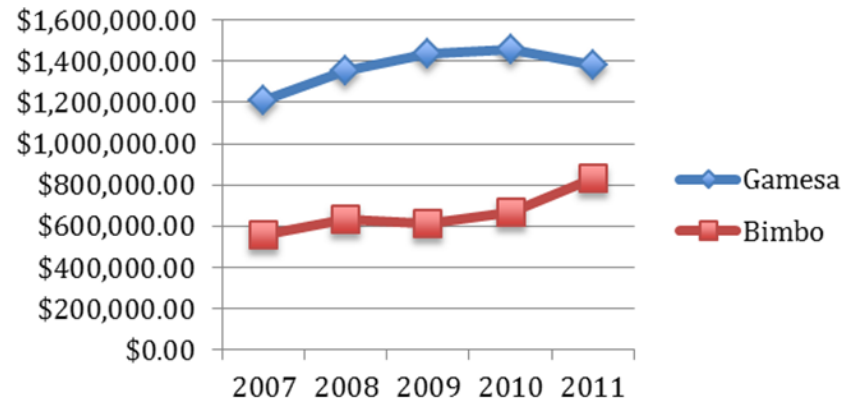


Midwest South Graphs

Midwest So vs RSR



Midwest South



Conclusions and Critique

- Linear regression model inconclusive
- DEA model helped us identify efficiency of each region
- Forecast
 - Midwest South, Northeast, Southeast
- First recommendation: Heartland
- Second recommendation: North California



Question?

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Thank you