GrowHaus Report

Moran Wang & Jingru Ma

January 31, 2018

Objective:

Our project is a database about The GrowHaus. It is a non-prot urban green house who focus on food production, distribution, and education.The company is located in northern Denver and provide lots of their services for Denver. The project shows data of three years, 2015,2016 and 2017.

By analyzing the data of these three years, the company can understand their production better and predict revenue based on some predictors. To help key stakeholders, we have created revenue KPI as references. We also plan to to implement A an SQL based database and a web dash for real time analysis of these metrics and SWOT analysis.

Service Learning
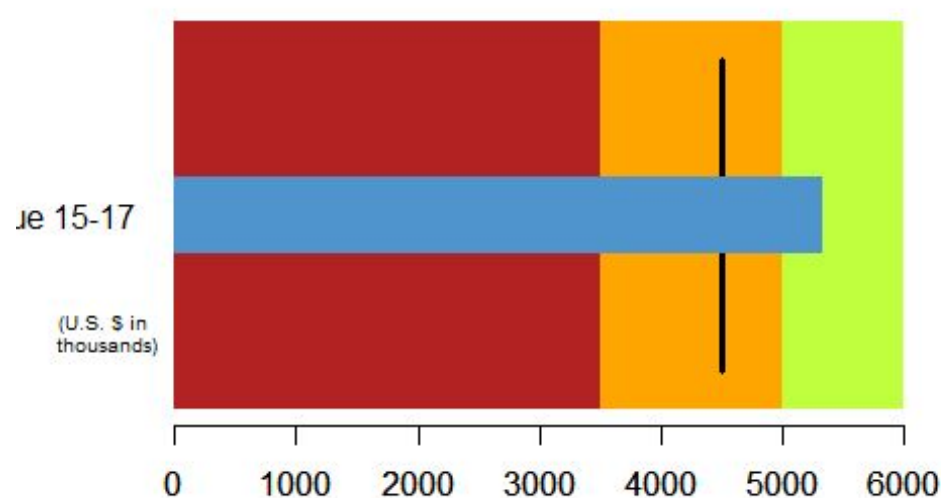
The KPI of service learning shows the revenue of service learning graphically. The reference point is 4500 and the three levels of background are 3500,5000 and 6000. The

blue bar reach to the green level which is the excellent level. The critical black line is the target value. The target value is 4500.
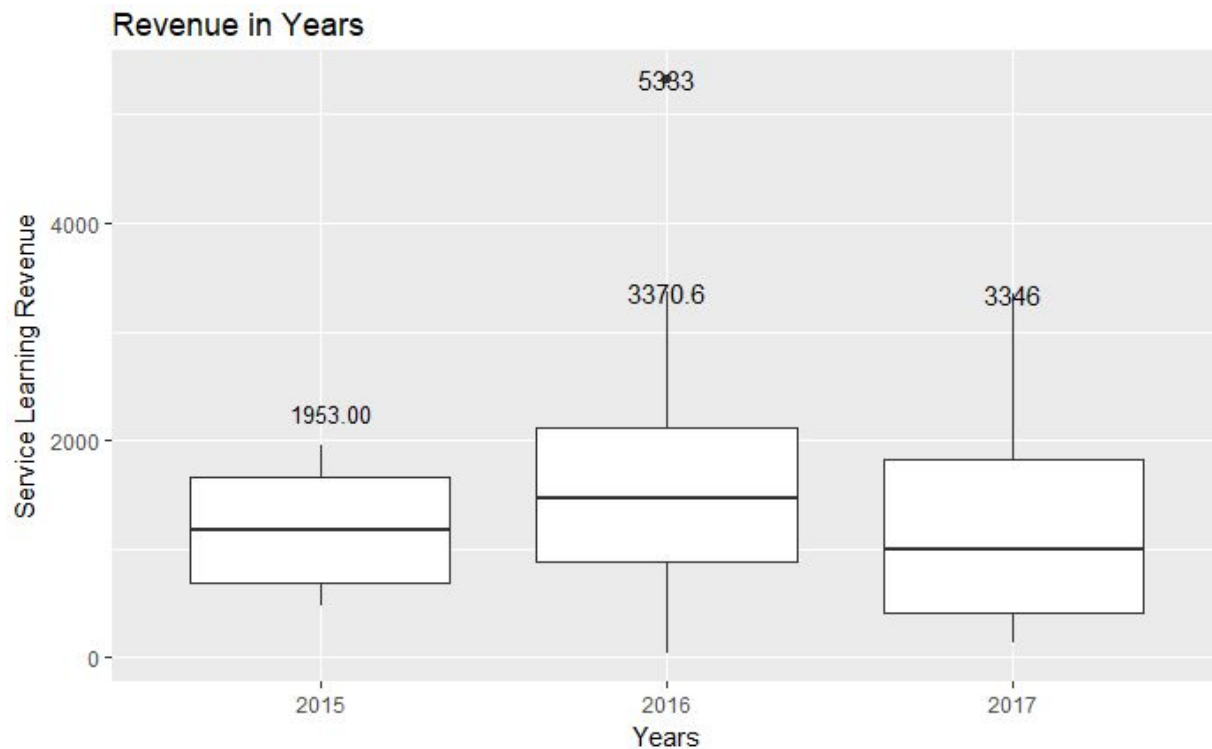
Revenue in Years

This graph is showing the service learning revenue in the year of 2015,2016 and 2017 as a boxplot. The maximum, third quartile,median, first quartile and minimum of data are showing on the plot. From this graph, there may be a outlier point in the data in 2016. The residual is the point 5333 in Nov 2016.

Service Learning Revenue in 2015

  Min. 1st Qu. Median   Mean 3rd Qu.   Max.

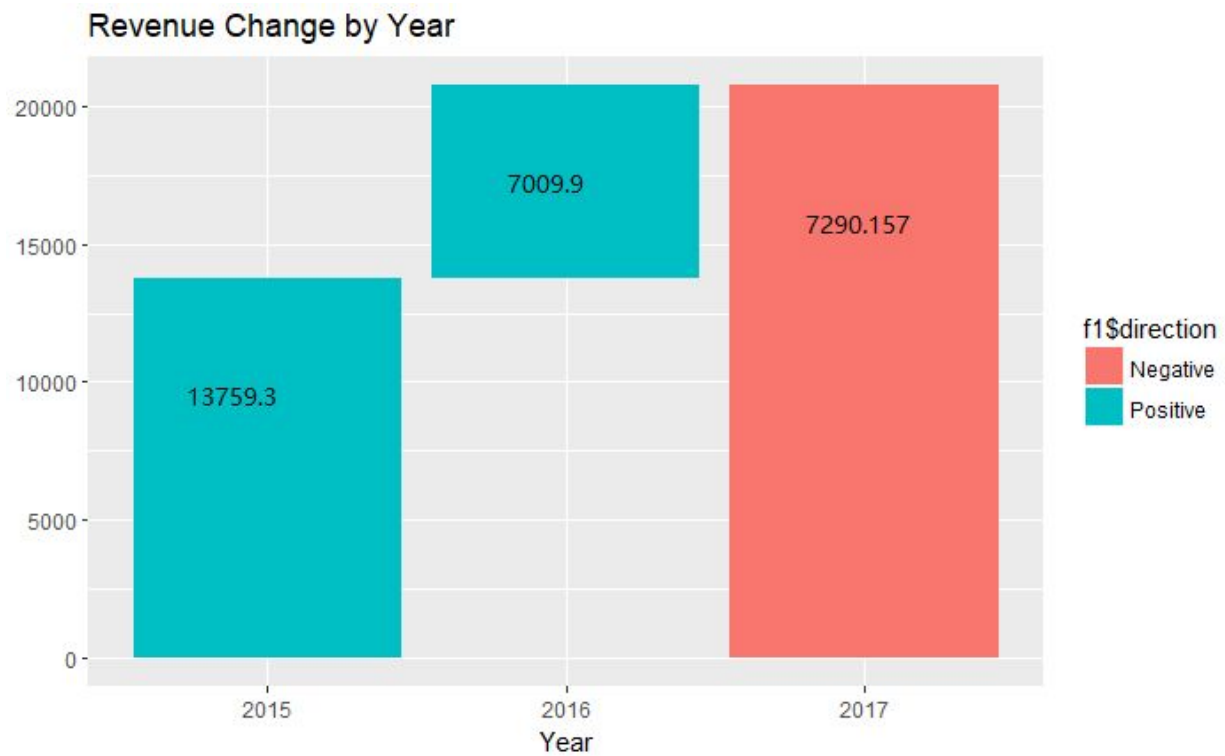 479.5 682.0 1178.0 1147.0 1660.0 1953.0

Service Learning Revenue in 2016

  Min. 1st Qu. Median   Mean 3rd Qu.   Max.

  40.0   885.8 1464.0 1731.0 2110.0 5333.0
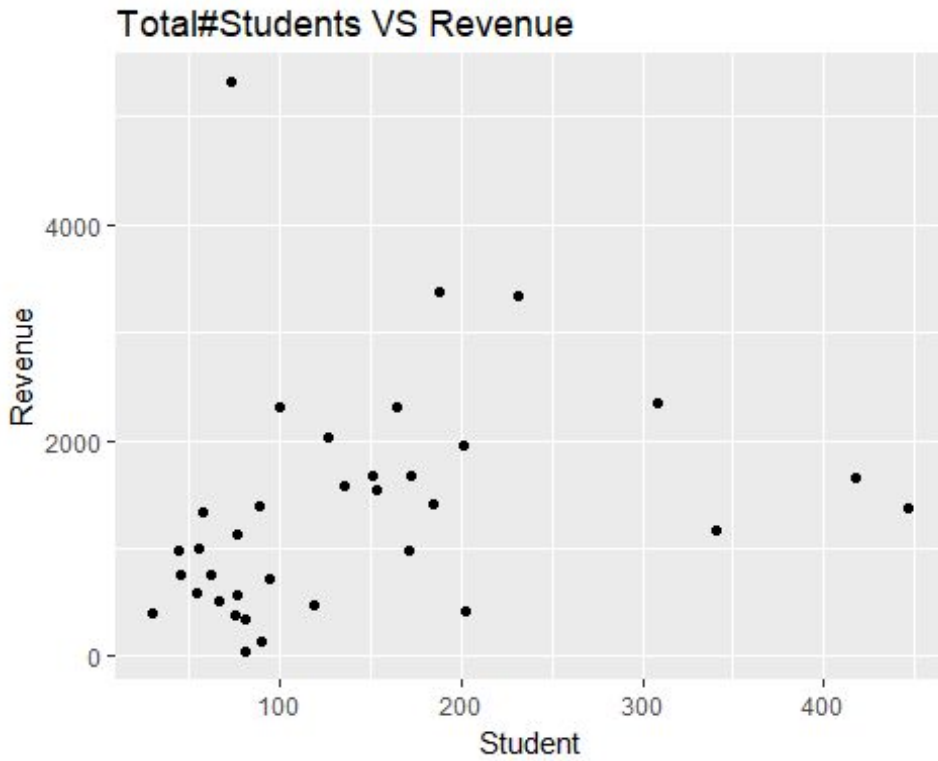
Service Learning Revenue in 2017

 Min. 1st Qu. Median   Mean 3rd Qu.   Max.

  140.0   409.0   991.5 1225.0 1819.0 3346.0

Revenue increase and decrease compare by year:

Revenue Change by Year

In 2015, the revenue increase 13759.3. From 2016 to 2015, the revenue increases $7009.9. However, from 2016 to 2017, the revenue decreases 7290.157.

Total#Students VS Revenue

This graph is showing the relationship of students and revenue. The data of students is independent variables, the data of revenue is dependent variables.


Total#Students VS Revenue
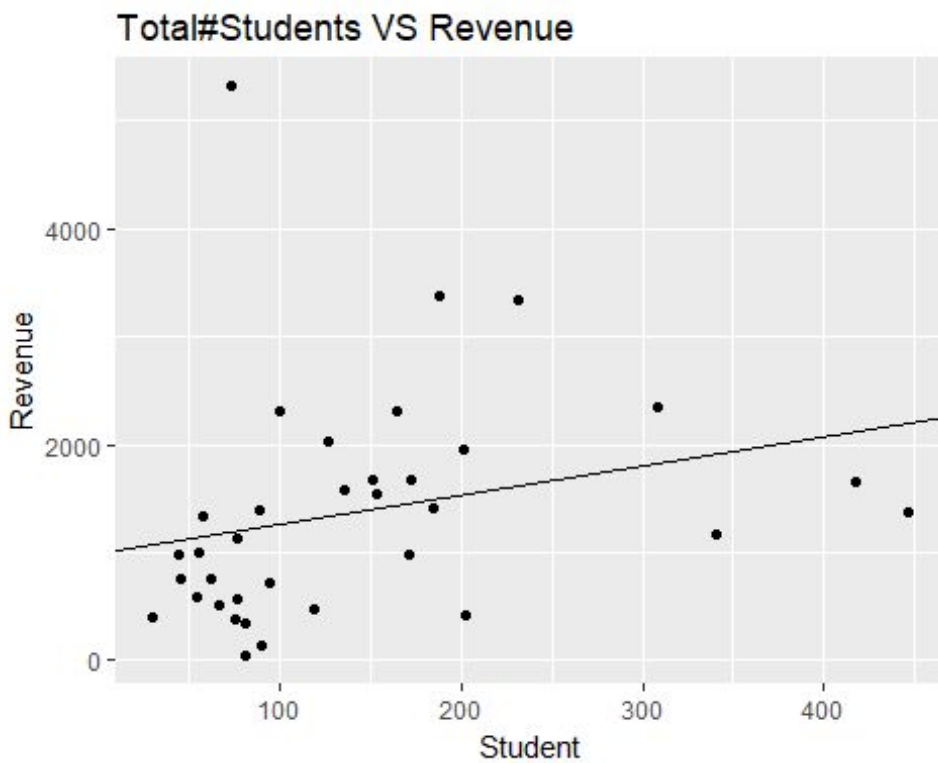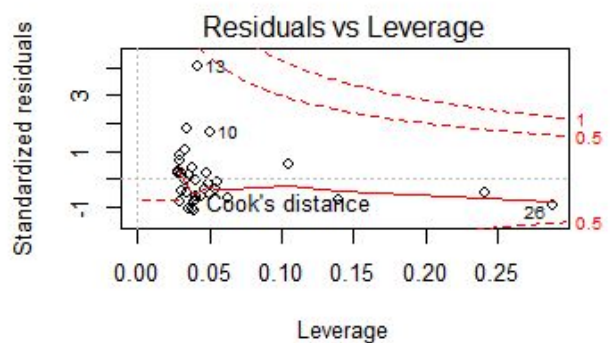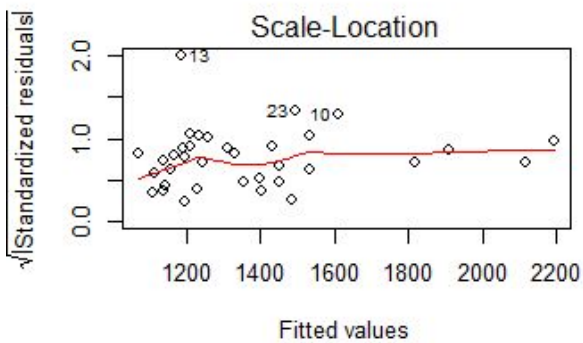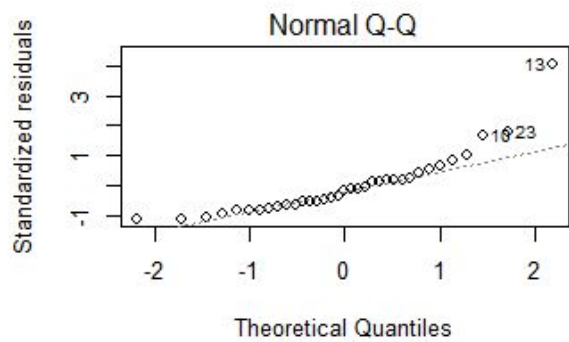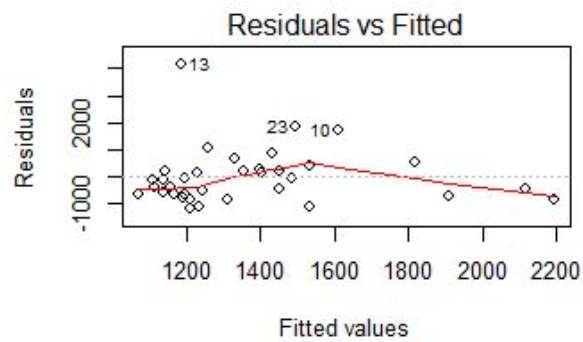
This qqnorm plot shows the errors are not normal distribution. Based on the graph, the error is not normal distribution. That means the linear regression model is not reliable.
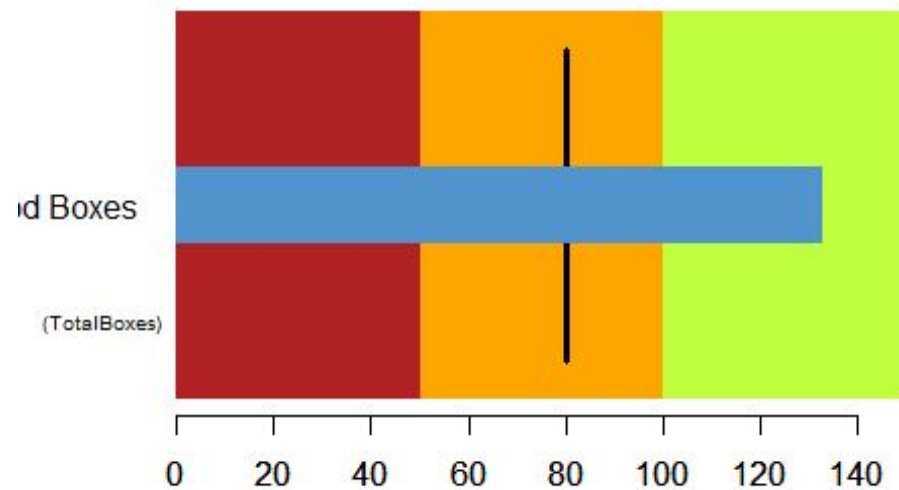
Food Box
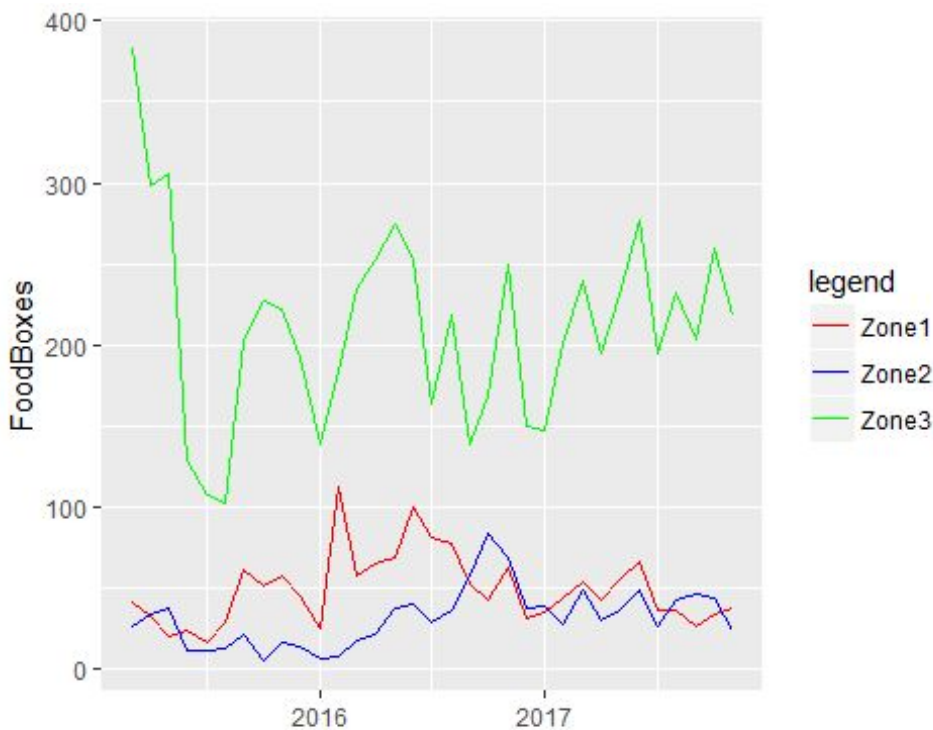
This graph is showing the line graphs of Zone1, Zone2 and Zone3 in the Food Boxes dataset. The data of Zone3 are large than the other two which means there is more demand of food boxes in zone 3. The is might because the GDP of zone 3's residents is higher than the other two.

 As the graph shows, the food are more demand one April or May in Zone 3. For Zone 2, the food are more demand on April or September. The food are more demand on February and May in Zone 1. All of these three zones demand less food at the beginning or the end of the year.
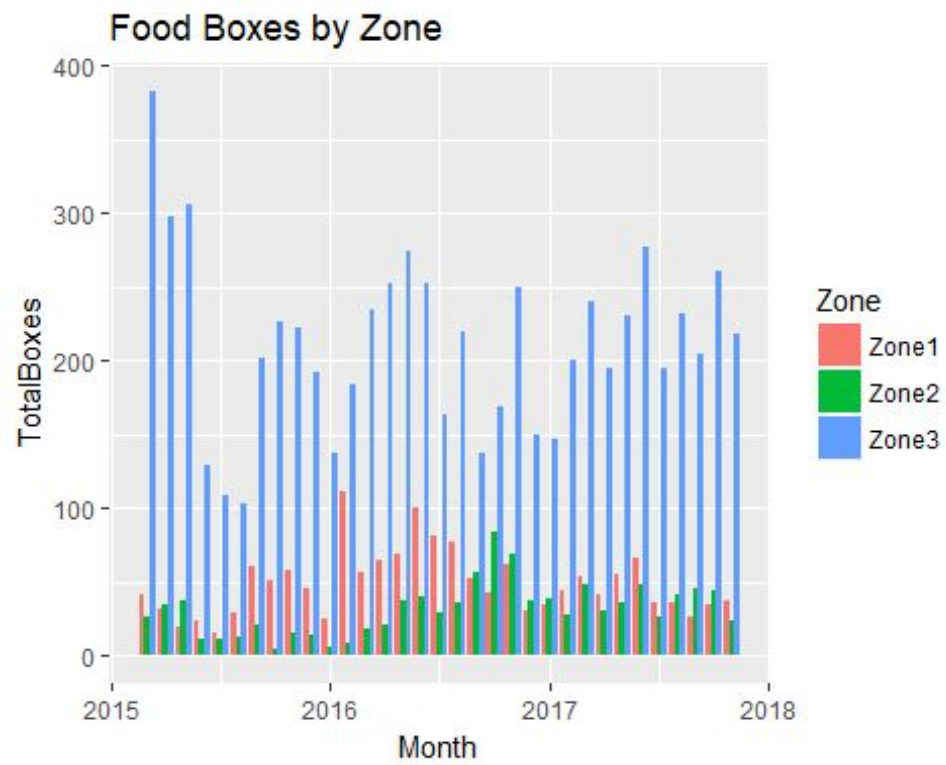
Food Boxes by Zone

This graph describes the food boxes distribution by zone.

Showing the KPI of total food boxes. The reference point is 80. The three levels of background are 50,100 and 150. The blue bar reach to the green level which is the excellent level. The critical black line is the target value. The target value is 80.
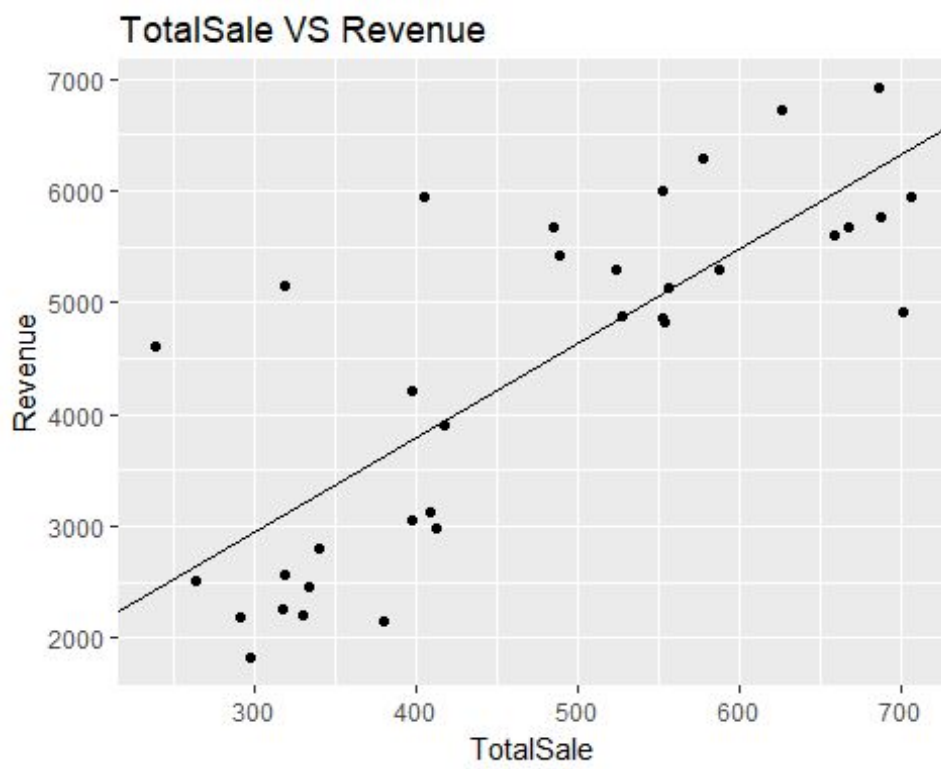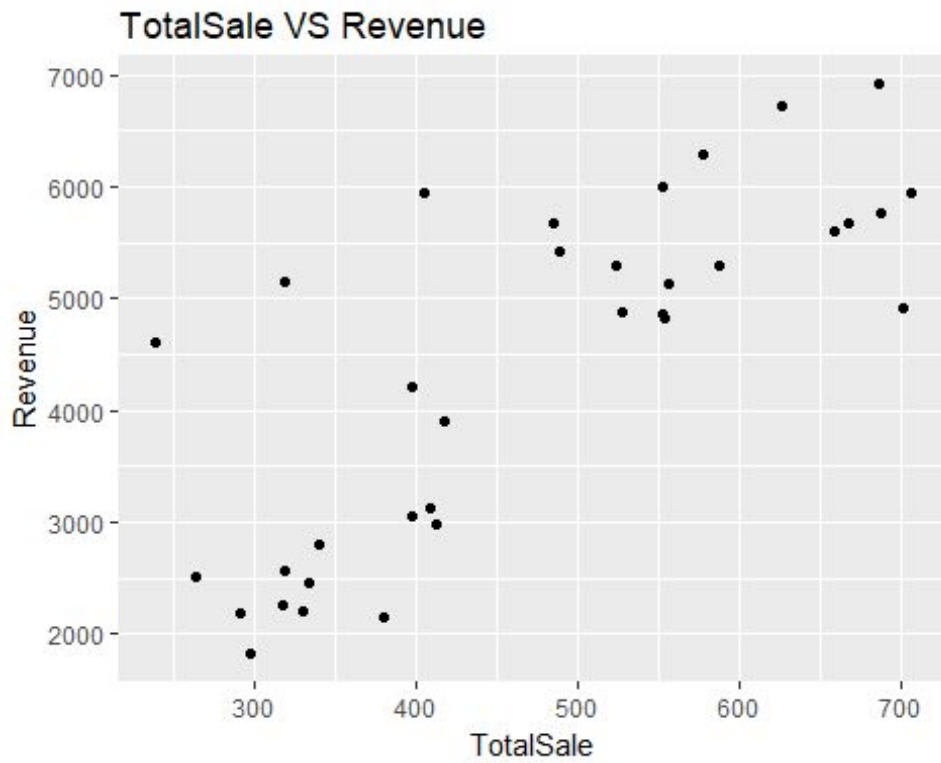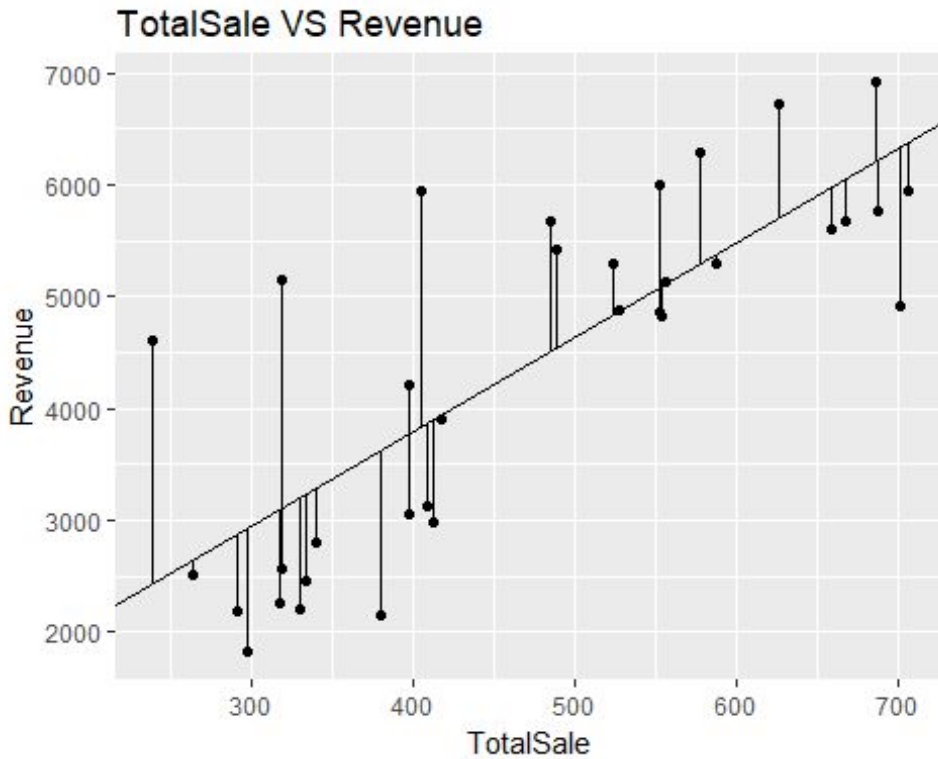
Market

This graph is showing the total transactions in different date from data. As the graph shows, the total transactions are growing basically.
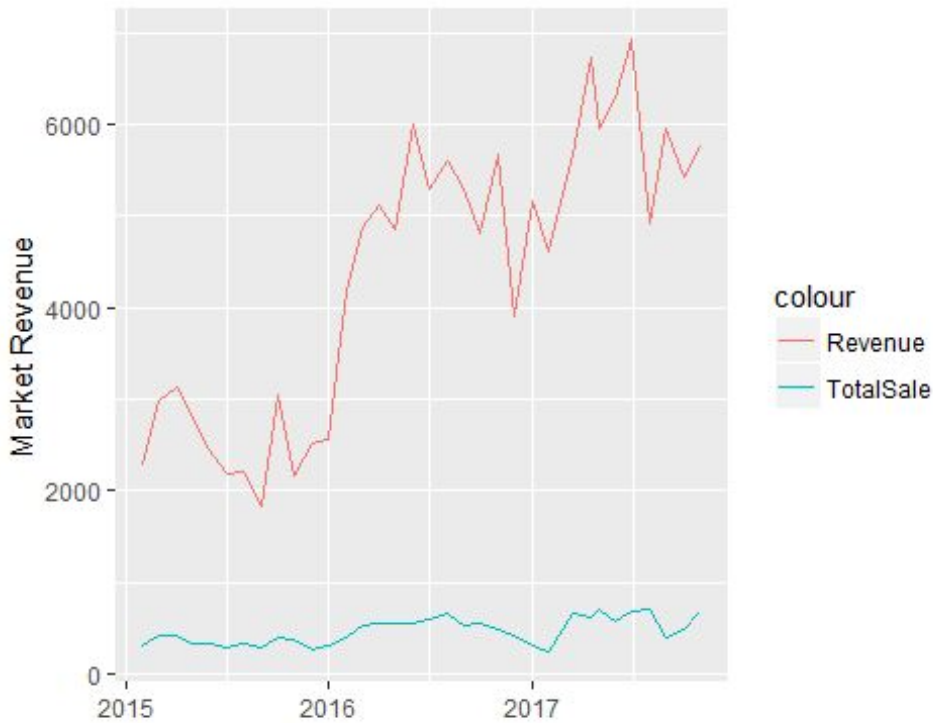
This graph is comparing the Revenue and total sales of market in different data. The total sale is clearly lower than revenue everyday. Since the company is non-profit, so they sale food in a low price. Their revemue might come from people's donation or sponsor's advertisement fee. These cause a high difference between revenues and total sales.

TotalSale VS Revenue

TotalSale VS Revenue
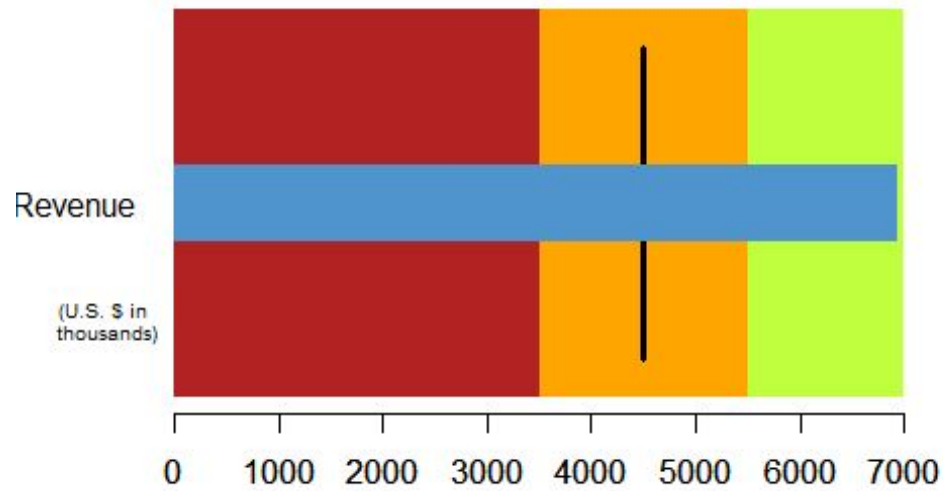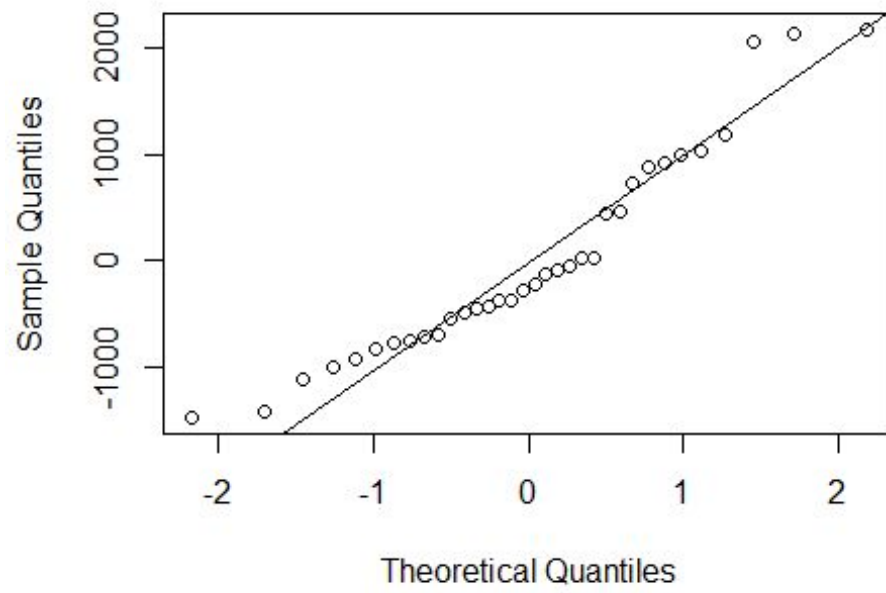
TotalSale VS Revenue

Adding a linear regression to show the relationship between revenue and total sale. The points are close to the line. Thus, Total sale and revenue are related to each other.

Normal Q-Q Plot

Revenue

(U.S. $ in thousands)
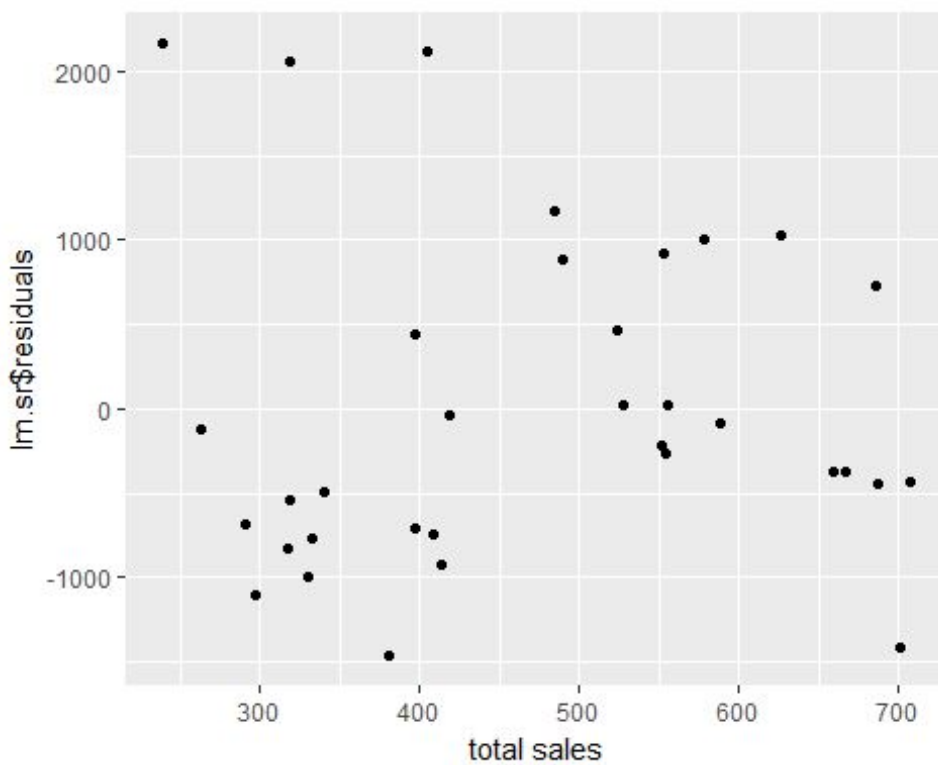
Showing the KPI of market revenue. The reference point of this graph is 4500, the three levels of background are 3500,5500 and 7000. The blue bar reach to the green level which is the excellent level. The critical black line is the target value. The target value is 4500.