Title: 2016 AT&T Regional Fall Case Competition

Name: Peng Sun, Yuemeng Li, Srikrishna Bhattacharyya

(University of Texas at Dallas,TX)

Introduction & Objective:

With the emergence of e-commerce business, AT&T's presence in the US market seems to be a gift to the consumers who would like to use various services namely – Mobility, Network Services, Internet of Things, Voice and Collaboration, Security Services, Cloud Services, Enterprise Mobility Management, Hosting Services, and application services. These services are made available to the consumers through various retail zones by selling the "off-the-shelf devices" like Cell Phones, TV, Accessories, Tablets & connectivity services like internet, broadband and Direct TV etc.

As a part of post sales activities, AT&T would like to collect feedback from their consumers to analyze the sentiment of the consumer participated in their B2B or B2C business model. This feedback is captured and stored in some remote servers which can stores 100 or 1000s of Peta bytes in reality.

Knowing the fierce market competition and the limitation of the scope of product life cycle complexities, it is not only imperative for AT&T to analyze this data to generate useful information for next launch but also help them to plan for accelerated business growth for those regions (identified by zip codes) that have been contributing positive reviews compared to the other regions with negative reviews, would be considered for special promotion plan otherwise an improvement plan will be implemented.

Data Preparation Stage:

In this paper our objective is to collect customer feedback for most of the regions pertaining to various counties of Dallas Fort Worth metropolitan area.

The below mentioned steps are followed to extract the data into excel.

1. Use 'from web' utility tool in excel to access the target websites [1].
2. Run the query for 'Dallas, TX' and then choose "Import" data onto individual spreadsheets.
3. Extract useful information only where feedback carries the following details
    a. Zip code.
    b. Overall rating grade.
    c. Review objective.
    d. Number of reviews.
    e. Sources.
4. Record all those cases as it is if the feedback ratings used a scale of 5(1 = worst, 5 = best).
5. Otherwise, we normalize the feedback to the scale of 5(For example: scale of 10 is divided by 2).
6. Next, we merge all the spreadsheets and create a final spreadsheet with those five columns.
7. Kindly note, we discarded those data where the Zip codes were not present.

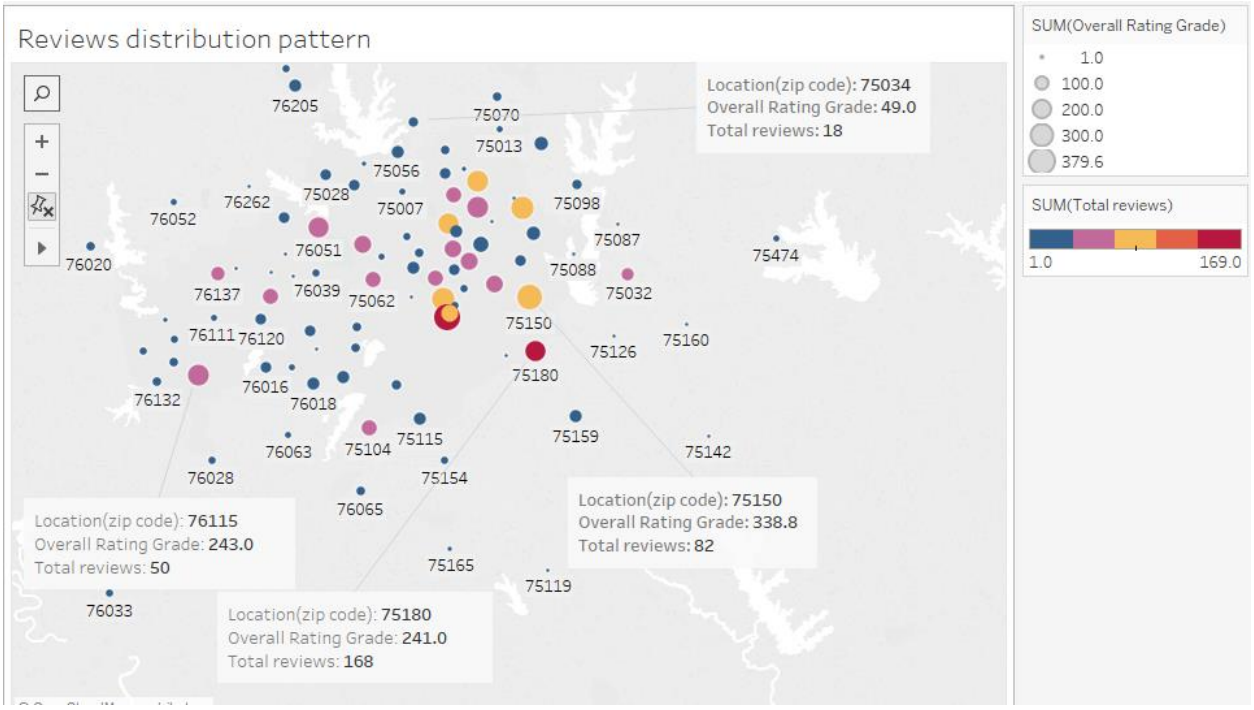
Data statistics:

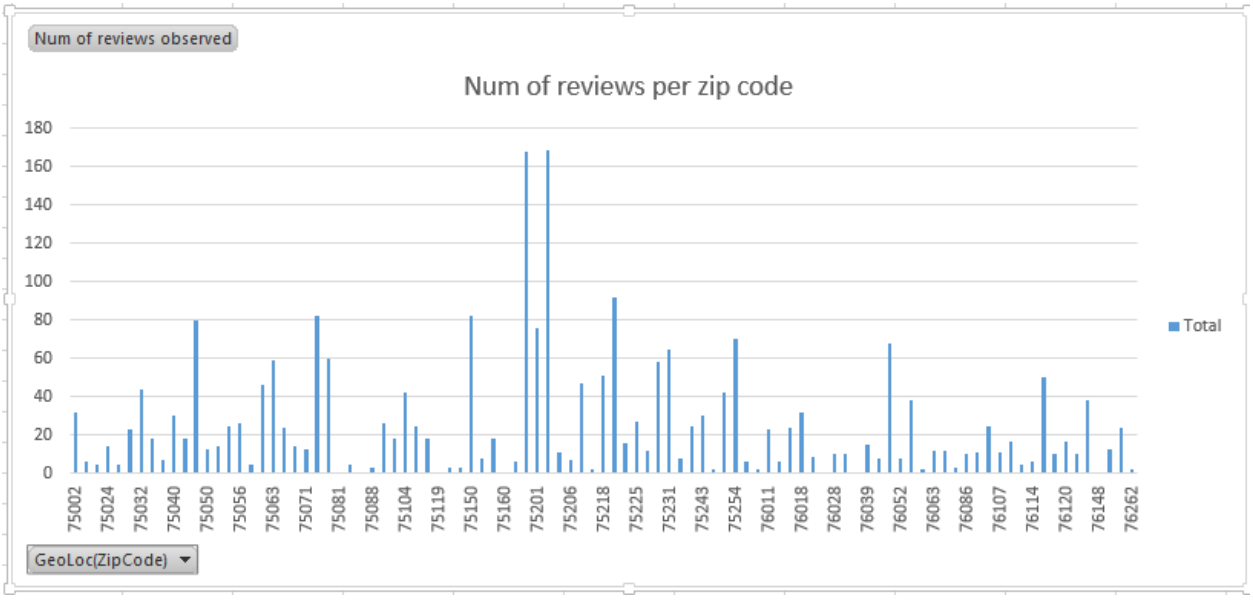
Data collected from sites :	Ref exhibit -1
Duration :	~3 years
Original number of reviews collected :	2760
Number of effective rows (feedback) :	2442
Number of zip codes captured :	97
Number of feedback not having zip codes	318
Number of columns used :	5
Total size of data :	61.9 KB

Interpretations:

Based on our initial analysis of this data set we found

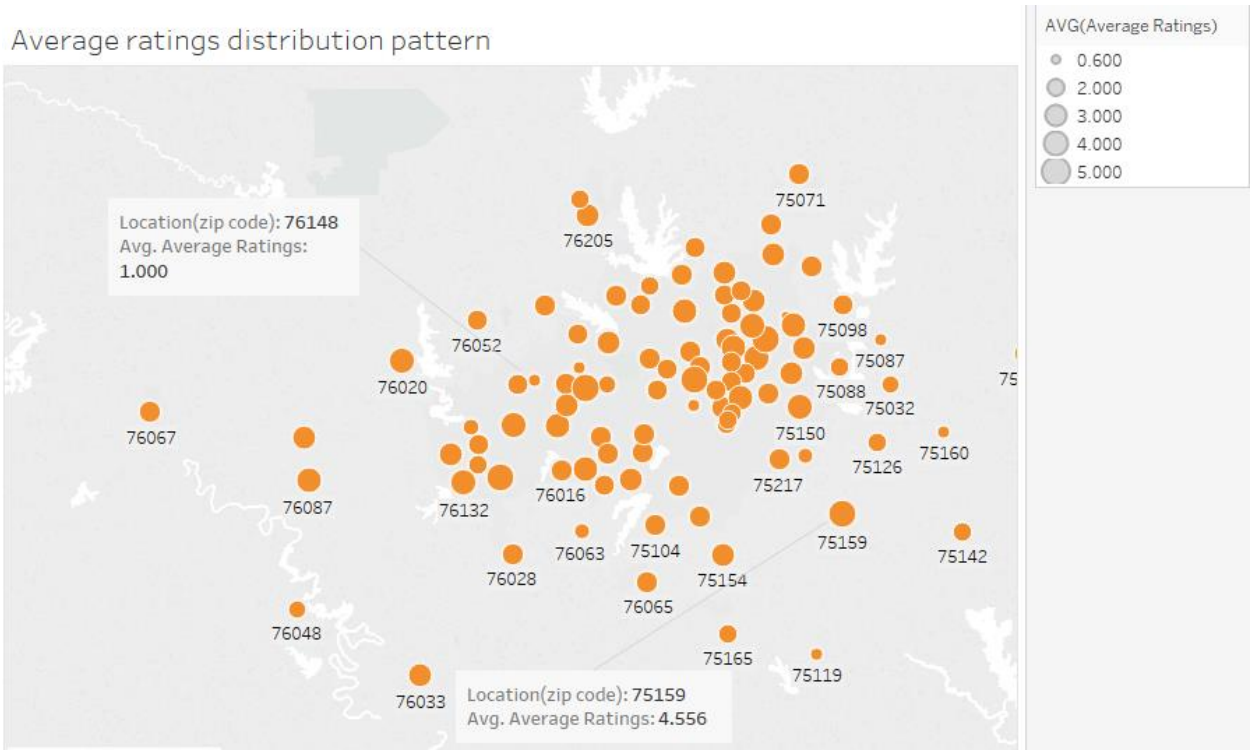
1) The data presented in the below (Dallas) map shows the amount of reviews distributed over different geo locations (identified by their individual zip codes).
   - The size indicates the sum of review ratings received whereas the color indicates the sum of reviews received.
   - Bigger the size indicates higher the number of rating count and vice versa, e.g. -Overall rating grade of zip code 75150 (value = 338.8) is better than 75034 (value = 49).
   - The number of reviews differentiated by color, e.g. – zip code 75180 shown in Red has more number of reviews (value = 168) compared to the zip code 76115 shown in purple (value = 50).

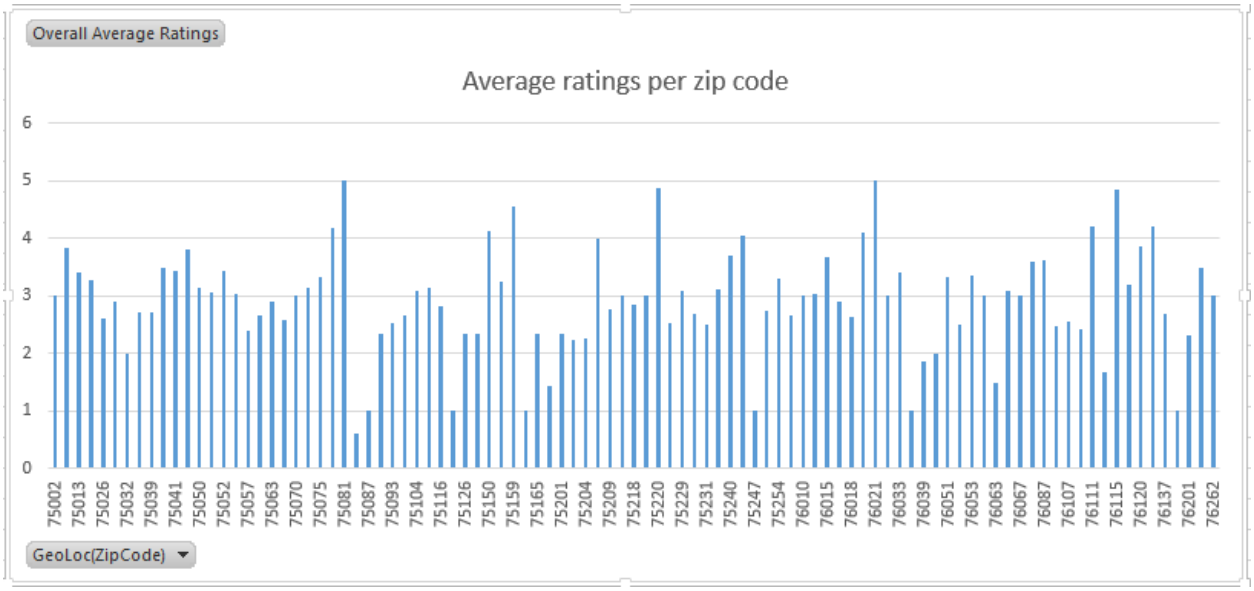




2) The data presented in the below (Dallas) map shows the rating density defined by the ratio of number of rating grades to number of review.

- The size indicates the level of rating density, the bigger the size, the higher the number of rating levels and vice versa, e.g. -Overall rating density of zip code 75159 (value = 4.556) is better than 76148 (value = 1.000).





Tools used	Tableau10.0, Microsoft Word, Excel, Chrome – all student version.

Usefulness of this feedback :

- This data provides the positive and negative feedback about AT&T's products and services. They can analyze and plan for further upgrade of their product lines and improving the customer service.

- This data provides some idea about the performance of the retail zones.
- This data can be used for sentiment analysis of the consumers in comparison to other competitors in the same zip code.
- Moreover this data can provide an insight about consumers' expectations and future demand.
- Last but not the least, AT&T can plan for additional network coverage by introducing cutting edge technologies namely IoT, 4G, 5G etc. for the identified zones.

Exhibit 1:

1) foursquare.com
2) attsavings.com
3) Google Reviews
4) judysbook.com
5) sellreception.com
6) yellowpages.com
7) yelp.com

The following pie chart displays the distribution of the reviews data collected from source :