For office use only	Team Control Number	For office use only
T1 _____	**2001560**	F1 _____
T2 _____		F2 _____
T3 _____	Problem Chosen	F3 _____
T4 _____	**C**	F4 _____

2020
MCM/ICM
Summary Sheet

A Wealth of Data

Summary

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Contents

LETTER

To: Marketing Director of Sunshine Company

From: MCM Team #2001560

Subject: Data Analysis Results

Date: March 7, 2020

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1 Introduction

1.1 Background

In recent years, more and more customers choose to shop online for its less space-time limitation and the convinent home delivery service. However, compared to the traditional physical stores, customers can only assess products by the privided profile and pictures instead of seeing the real ones. The information gap here is one of the main causes of dissatisfied purchases. To help comsumers know the product better, many online marketplace platforms, such as Amazon, introduce "review system". Customers are provided with an opportunity to express their level of satisfaction and further opinions or information about the products they have bought through rating and reviewing. Those additional information can assist other customers' purchasing decision. Meanwhile, it also help companies to gain insights into the market they participate and improve their product design.

But we found that not all reviews are equally relevant. Some reviews are too general; some people's ratings don't match their reviews; there are even deliberately misleading reviews, such as malicious defamation from competitors or the praise by the bribed reviewers. Therefore, when using data to assist business decisions, we need to analyze data carefully and comprehensively to obtain more accurate results. More factors should be considered, such as the ratings, review contents and review time, rather than simply calculate the average rating level.

1.2 Problem Restatement

1.3 Data Source

Our model is informed by the customer-supplied ratings and reviews for microwave ovens, baby pacifiers, and hair dryers sold in the Amazon marketplace over more than 10 years.

2 Assumptions

-

Symbol	Definition
Steve Jobs	001

Table 1: variables and functions

3 Nomenclature

4 Model Design

5 Part I:

6 Part II:

7 Sensitivity Analysis

8 Conclusions

8.1 Strengths

- **Applies widely**
  This system can be used for many types of airplanes, and it also solves the interference during the procedure of the boarding airplane,as described above we can get to the optimization boarding time.We also know that all the service is automate.
- **Improve the quality of the airport service**
  Balancing the cost of the cost and the benefit, it will bring in more convenient for airport and passengers.It also saves many human resources for the airline.
-

Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Donec odio elit, dictum in, hendrerit sit amet, egestas sed, leo. Praesent feugiat sapien aliquet odio. Integer vitae justo. Aliquam vestibulum fringilla lorem. Sed neque lectus, consectetuer at, consectetuer sed, eleifend ac, lectus. Nulla facilisi. Pellentesque eget lectus. Proin eu metus. Sed porttitor. In hac habitasse platea dictumst. Suspendisse eu lectus. Ut mi mi, lacinia sit amet, placerat et, mollis vitae, dui. Sed ante tellus, tristique ut, iaculis eu, malesuada ac, dui. Mauris nibh leo, facilisis non, adipiscing quis, ultrices a, dui.

(1)

$$a^2 \tag{1}$$

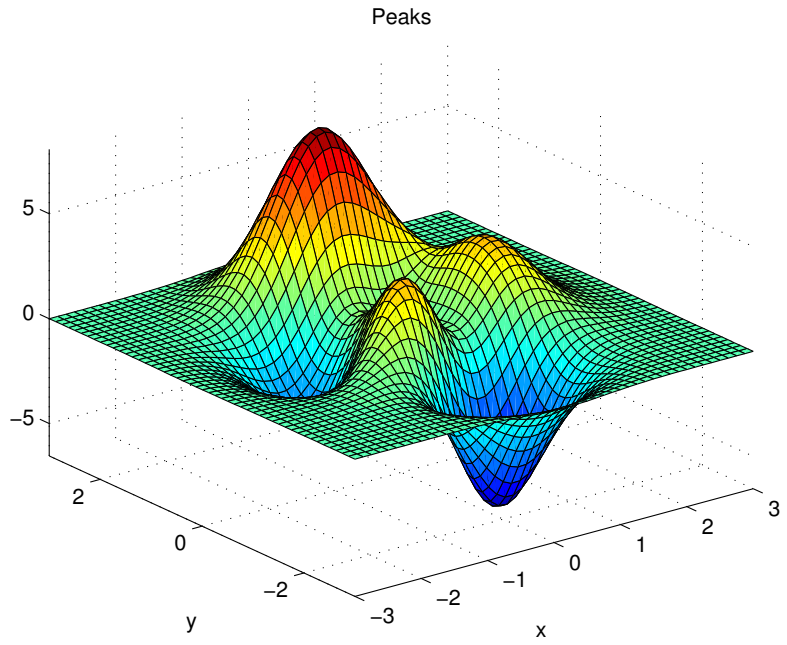

Figure 1: aa

$$p_j = \begin{cases} 0, & \text{if } j \text{ is odd} \\ r!\,(-1)^{j/2}, & \text{if } j \text{ is even} \end{cases}$$

References

[1] D. E. KNUTH The TEXbook the American Mathematical Society and Addison-Wesley Publishing Company , 1984-1986.

[2] Lamport, Leslie, LATEX: " A Document Preparation System ", Addison-Wesley Publishing Company, 1986.

[3] `http://www.latexstudio.net/`

[4] `http://www.chinatex.org/`

Appendices

Appendix A First appendix

Aliquam lectus. Vivamus leo. Quisque ornare tellus ullamcorper nulla. Mauris porttitor pharetra tortor. Sed fringilla justo sed mauris. Mauris tellus. Sed non leo. Nullam elementum, magna in cursus sodales, augue est scelerisque sapien, venenatis congue nulla arcu et pede. Ut suscipit enim vel sapien. Donec congue. Maecenas urna mi, suscipit in, placerat ut, vestibulum ut, massa. Fusce ultrices nulla et nisl.

Here are simulation programmes we used in our model as follow.

Input matlab source:

```
function [t,seat,aisle]=OI6Sim(n,target,seated)
pab=rand(1,n);
for i=1:n
    if pab(i)<0.4
       aisleTime(i)=0;
    else
        aisleTime(i)=trirnd(3.2,7.1,38.7);
    end
end
```

Appendix B Second appendix

some more text **Input C++ source:**

```
//============================================================================
// Name        : Sudoku.cpp
// Author      : wzlf11
// Version     : a.0
// Copyright   : Your copyright notice
// Description : Sudoku in C++.
//============================================================================

#include <iostream>
#include <cstdlib>
#include <ctime>

using namespace std;

int table[9][9];

int main() {

    for(int i = 0; i < 9; i++){
```

```
        table[0][i] = i + 1;
    }

    srand((unsigned int)time(NULL));

    shuffle((int *)&table[0], 9);

    while(!put_line(1))
    {
        shuffle((int *)&table[0], 9);
    }

    for(int x = 0; x < 9; x++){
        for(int y = 0; y < 9; y++){
            cout << table[x][y] << " ";
        }

        cout << endl;
    }

    return 0;
}
```