Problem Chosen	2024 MCM/ICM Summary Sheet	Team Control Number
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Summary

With the development of ..., the xx problem has become a hot topic in the paper. In order to solve the ... problem, this paper establishes/utilizes the ... model and solves to obtain ....

In TASK 1, we...

Finally, we conduct a sensitivity analysis in order to gain some deep understanding of our model. Additionally, we analyze the strengths and weaknesses of our model.

Keywords: ...

Contents

1 Introduction

1.1 Problem Background

Music...[1]

1.2 Restatement of the Problem

Considering the background information and restricted conditions identified in the problem statement/As we have a data set containing the..., we need to build mathematical models to solve the following problems for ...:

1. **Problem 1**: ...
2. **Problem 2**: ...

1.3 Our work

To achieve our goal, we need to:

- ...
- ...

Our modeling framework can be illustrated as shown in Figure ? below.

2 Assumptions and Notations

2.1 Assumptions and Explanations

Considering those practical problems always contain many complex factors, first of all, we need to make reasonable assumptions to simplify the model, and each hypothesis is closely followed by its corresponding explanation:

- Assumption 1: The data provided in this problem is valid and reliable.
- Explanations:
- Assumption 2: There's no maximum/minimum xx limit for..
- Explanations:
- Assumption 3: The xx factors can be ignored./The xx does not influence xx.
- Explanations:
- Assumption 4: We do not ...
- Explanations:
- Assumption 5: The xx is the xx.
- Explanations:
- Assumption 6: xx and xx do not affect each other.

- Explanations:

2.2 Notations

In this work, we use the nomenclature in Table 1 in the model construction. Other none-frequent-used symbols will be introduced once they are used.

Notations	Definitions
p_{ij}	the

Table 1: Notations Table

3 Data Description

3.1 Data Collection

3.2 Date Pre-processing

The data we use includes the data files given as **mingzi**.

Since we are only allowed to use this data set provided by timudeofficial, we need to pre-process the data for the datasets before solving the problem.

Notice that there are...

To facilitate the follow-up process, and to ensure the reliability and reasonableness of the data, we take (the average of the prices of the two trading days before and after each trading day with missing gold price as the gold price of that day.The trading days eith missing gold price and their corrected gold prices)are shown in the table below:

3.3 Data Visualization

3.4 Descriptive Statistical Anaalysis of the Data

4 Task1: Network Model

4.1 Network for influence

5 Sensitivity Analysis

In Task 1, we introduce the attenuation coefficient and assign it a value of 0.5 in order to measure the effect of indirect influence in the influence network, and now we do a sensitivity test on the attenuation coefficient $\mathcal{P}$. From the figure we can find that there is no large change in the influence when $\mathcal{P}$ is taken at [0.1,0,8]. Therefore, our model is insensitive to $\mathcal{P}$ in most cases.

6 Conclusion

7 Strengths and Weaknesses

References

[1] Wang, Z. (1983). Cause Analysis of Maui Fire in Hawaii Based on Remote Sensing. Shandiyanjiu.