BANA 620 PROJECT REPORT: DESCRIPTIVE AND PREDICTIVE ANALYTICS APPLIED TO THE SKILLED NURSING FACILITY COST REPORTS

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Contents

1 Executive Summary

An overview of the project, including key findings, recommendations, and a brief summary of the analysis conducted. This section should be concise and geared toward readers who may not delve into the full details of the report.

2 Introduction

Context and background information about the opportunity the project addresses. This section should outline the objectives of the project and the significance of the analysis being conducted.

3 Methodology

A detailed description of the analytical methods and tools used in the project. This should include data collection processes, data analysis techniques (e.g., statistical methods, machine learning algorithms), and any software or programming languages utilized.

4 Data Description

An overview of the data set(s) used, including sources, size, and characteristics of the data. Highlight any data cleaning or preprocessing steps undertaken to prepare the data for analysis.

4.1 Skilled Nusing Facility Cost Report

Medicare-certified institutional providers are required to submit annual cost reports. These data files contain the highest level of cost report status for cost reports in each reported fiscal years. The cost report contains provider information such as facility characteristics, utilization data, cost and charges by cost center (in total and for Medicare), Medicare settlement data, and financial statement data. CMS maintains the cost report data in the Healthcare Provider Cost Reporting Information System (HCRIS). Skilled Nursing Facilities (SNF) submit their cost report data to HCRIS using form CMS-2540-2010. The reports used are from the years 2015 through 2021.

4.1.1 Preprocessing

5 Analysis and Findings

Presentation of the analysis conducted, including data visualization (charts, graphs, tables) and statistical outputs. This section should detail the insights gained from the analysis, interpreting the results in the context of the business problem.

6 Discussion

Interpretation of the findings, discussing how they address the project objectives and their implications for the business. This section should also cover any limitations of the analysis and considerations for future research.

7 Recommendations

Based on the analysis and findings, provide actionable recommendations for the business. Clearly articulate the expected impact of these recommendations and suggest a plan for implementation.

8 Conclusion

Summarize the key points from the report, reinforcing the value of the findings and recommendations.

9 Appendices

Include any additional material that supports the analysis, such as detailed data tables, code snippets, or extended methodology descriptions.

```python
# Loop through each year, read the CSV file, add a 'Year' column, and append to the list
def get_file_path():
    if os.name == 'nt':   # Windows
        return r'C:\Users\joshu\OneDrive\Desktop Files\Textbooks and Syllabi\CSUN Semester
        6\BANA 620\Project\Data'
    else:   # macOS or other Unix-like OS
        return '/Users/josh/Library/CloudStorage/OneDrive-Personal/Desktop Files/Textbooks
        and Syllabi/CSUN Semester 6/BANA 620/Project/Data'

base_path = get_file_path()
years = ['2015', '2016', '2017', '2018', '2019']
dataframes = []

for year in years:
    file_path = os.path.join(base_path, f'{year}_CostReport.csv')
    df = pd.read_csv(file_path)
    df['Year'] = year   # Add a 'Year' column
    dataframes.append(df)

# Concatenate all DataFrames into one
costReportdf = pd.concat(dataframes, ignore_index=True)
```

Figure 1: Data loading code snippet

10 References

List all sources cited in the report, including data sources, literature, and any external references used in the analysis.