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Automating the Data Analysis Process Used by Performance Improvement to Generate Impactful Results

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Automating the Data Analysis Process Used by Performance Improvement to Generate Impactful Results

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BACKGROUND AND INTRODUCTION

o Performance Improvement (PI) is a systematic approach to enhance the quality and efficiency of processes, products, and services. PI relies heavily on data analysis.

o Data Analysis can be time-consuming and complex, requiring specialized skills and tools.

o To overcome these challenges, we proposed an automated data analysis framework to streamline the process to generate impactful results for PI projects relating to finance and management engineering.

o We demonstrate the effectiveness of our framework on several real-world PI cases, showing how it can improve speed, accuracy, and the value of data analysis.

OBJECTIVES

Improve on the current process.

Leverage existing software to create dashboards and visuals.

Utilize data to visualize information quickly.

Ensure the ability to share information with colleagues from any device.
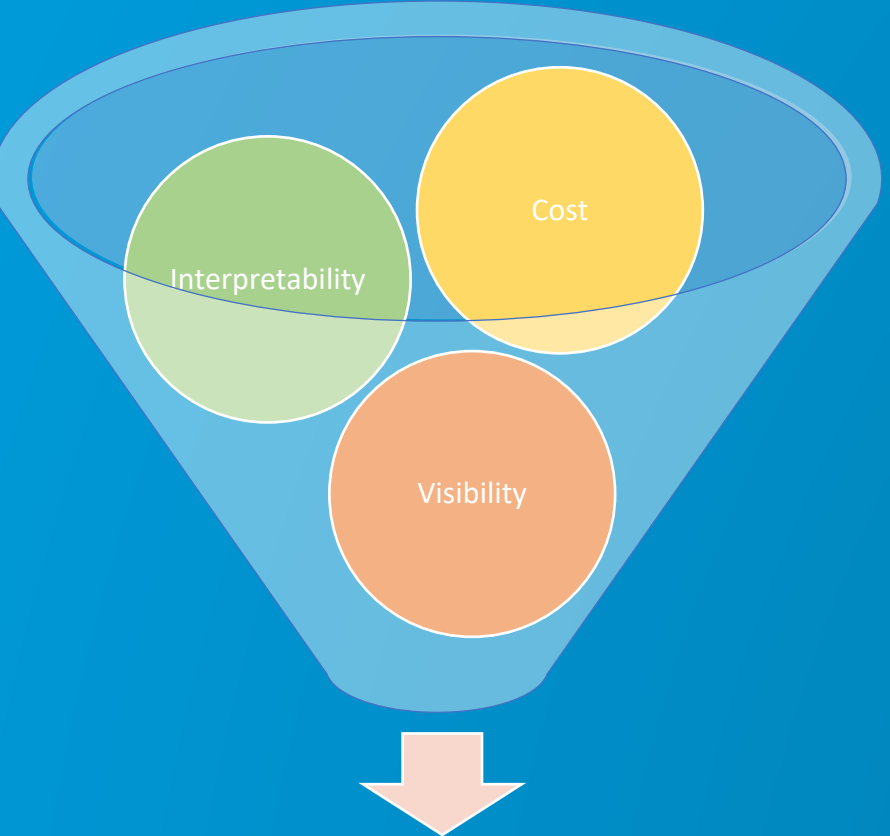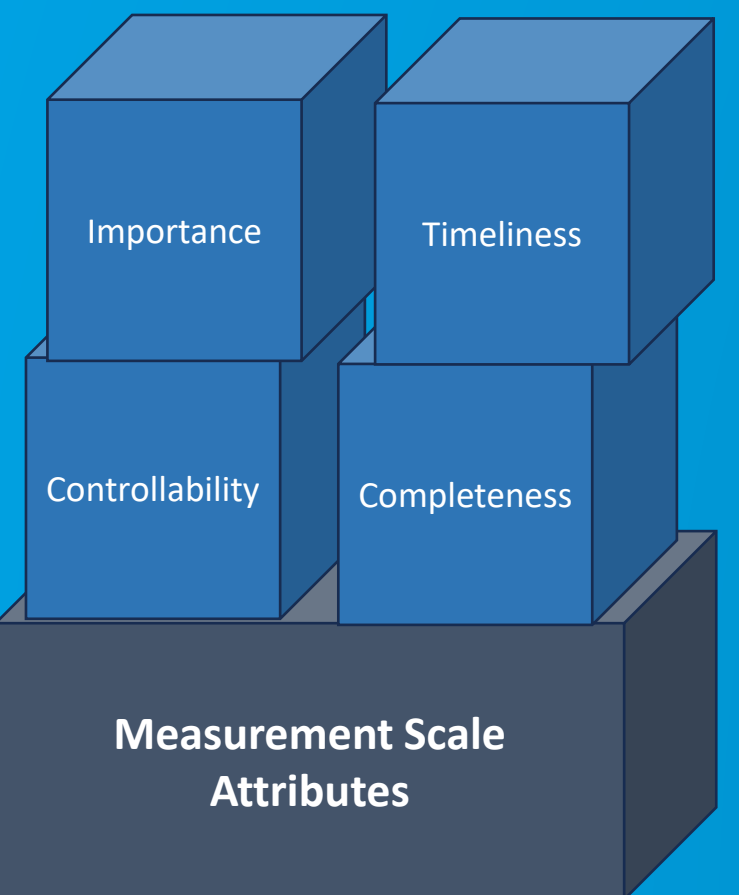
METHODS

KEY: FTE= Full-Time Equivalent; A= Actual; UOS= Units of Service

Figure A. Microsoft Excel file (20x59), consisting of financial productivity data from the various Lehigh Valley Health Network campuses.

Utilized pre-existing research to become well-versed in software functionalities and impact.

Interpretability
Cost
Visibility

Importance | Timeliness
Controllability | Completeness

Measurement Scale Attributes

Microsoft Power BI: Software developed by Microsoft, allowing for interactive data analysis compatible with existing Microsoft platforms utilized by Performance Improvement.

RESULTS

An interactive Microsoft Power BI dashboard, that can be shared with and edited by colleagues in real-time. Can be personalized to showcase all, or more specific data, from a large file to display complex information in a way that is easily understood.
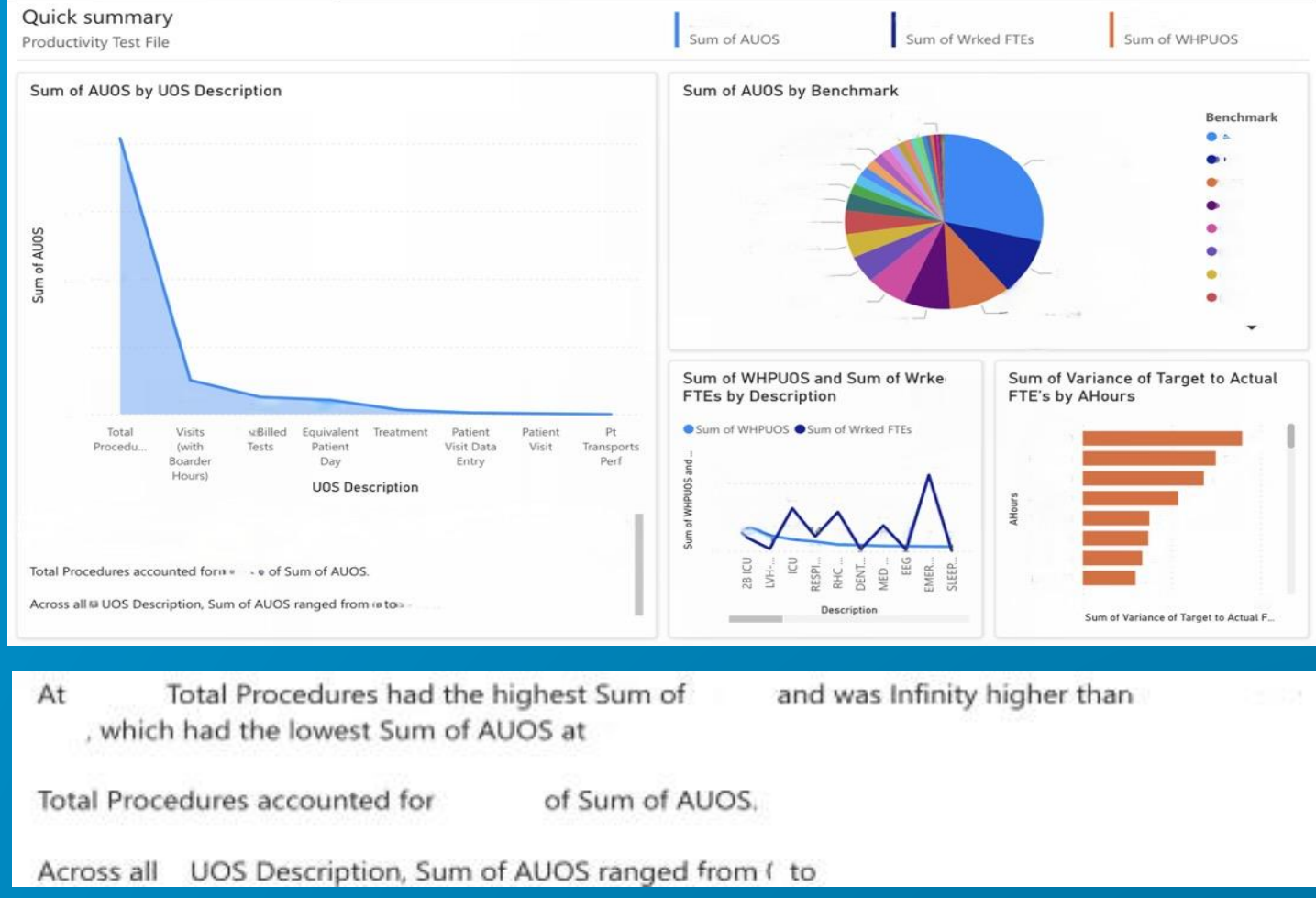

Figure B. Microsoft Power BI analysis of Figure A, displaying interactive data.

At   Total Procedures had the highest Sum of   and was Infinity higher than   , which had the lowest Sum of AUOS at

Total Procedures accounted for   of Sum of AUOS.

Across all   UOS Description, Sum of AUOS ranged from 0 to

FUTURE DIRECTIONS

Enhance Accessibility

• Create a simple job aid for LVHN colleagues/team leaders to utilize.
• Ensure availability on phone through Microsoft Teams and SharePoint compatibility.

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