



Operations Research and Engineering Management

Praxis Defense

**Value-Oriented Business Process Management:
Using A Process Reengineering Approach To
Identify Productivity Improvement Requirements
And Justify Strategic Capital Investment**



DE in Engineering Management Praxis Defense

Presented by

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Wednesday, May 4, 2022
9:30am to 11:00am
Caruth 384

Abstract

The goal of this praxis is to create a modeling approach that can be used to evaluate and quantify the current efficiency and throughput at a transloading facility. The model will also be used to show the expected metric improvements and financial return of potential operational changes and capital investment scenarios that could be implemented, giving the facility's management justification to approve these upgrades.

The case study presented will show how to capture and document the current processes within the loading facility, model the relationships between resources and constraints, find appropriate probability distributions to represent the service data, define the metrics and baselines by which to judge improvements, and use forecasting and economic modeling to find the NPV and IRR of potential capital investments given current tax structures. Using these results, solutions will be prioritized and presented as recommendations for improving the facility's efficiency and throughput.

Biography

Laura Vu is a doctoral candidate in Engineering Management within the Department of Operations Research and Engineering Management in the Bobby B. Lyle School of Engineering at Southern Methodist University in Dallas, TX. She completed her Bachelor of Science degree in Industrial Engineering in 2003 at Texas A&M University in College Station, TX, and her Master of Science degree in Engineering Management at Southern Methodist University in 2006. Laura worked for BNSF Railway, headquartered in Fort Worth, TX, for nearly 20 years, with roles in Engineering, Finance, Technology, and Marketing & Sales. She is now an independent consultant leading the Digital Transformation initiative for a non-profit organization in Washington DC that focuses on implementing the changes needed to ensure an economy that is free from systemic and structural racism.