TE AMT Automated Forecasting & Reporting

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Project Overview

How can we increase visibility and automation in the project management process?

- Visualization
  - Current, past, and future resource use
  - Track project progress
  - Assist with future project scheduling
- Automation
  - Reduce manual data entry
  - Increase ease of use
  - Increase data accuracy

Process Maps

Original

This diagram demonstrates the multiple manual steps that AMT’s executive assistant was required to take while managing AMT data. It highlights problems with using Excel to store data, no visualization, and the lack of flexibility when copying and deleting files.

Current

This flowchart shows the areas in which our team changed manual data entry and manipulation to one-click automated processes. Additionally, it demonstrates how we simplified data storage and implemented visualization systems, utilizing Microsoft Power BI and Access.

Constraints

- 6 mo. for implementation & training
- Minimize changes to current processes to reduce changeover and learning curve
- Remote work with no remote access to TE internal infrastructure
- No additional cost, make use of available tools including Microsoft Excel, Access, Power BI and Teams

Assumptions

- Continue to track same information
- Trust submitted labor hours
- Trust charge code classification
- Depend on Cheryl & Tim for data
- Minimize changes
- 6 mo. for implementation & training

Performance Criteria

- Reduce redundant data entry, manipulation and storage
- Increase efficiency of team meetings, through dashboards
- Consolidate processes for vacation approval on the Engineering and Manufacturing teams
- Design intuitive and interactive tools to drive improved decision making

Problem Statement

Initial Goals

- Automatically update visualizations
- Build flat data tables to contain hours, quotes and capacity information on a weekly basis
- Show intuitive project status
- Interface with existing TE tools & processes
- Document all developments & assumptions

For Future

- Project Forecasting - Revamping the whole process to enable one time data entry, and quick manipulation based on customer changes
- Capacity Planning - Consolidate the vacation process in Engineering and Shop, add contractor manipulation based on customer changes
- Automated Analytics - Leverage weekly hours, timesheets to create reports & tools

Process Maps

Original

This dashboard enables AMT’s manager to visually understand how many project hours have been forecasted for the future. The manager can view generated project schedules in a stacked bar chart of hours per month, color coded by function or project. They have the ability to filter by Date Range, Project Name and Confidence level. This current Power BI based system is on the left.

Current

This system allows employees to view and schedule vacation hours through Microsoft Teams. AMT’s manager uses the dashboard to review the schedule and then make decisions on vacation requests and needs for contractors. The system will then use the information to form a capacity line in Power BI.

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Performance

- Reduce redundant excel sheets from 6 to 1, an 83% reduction
- Standardized work procedures: RFQ sheet, Vacation Planning tool, Teams Dashboards
- Shorten meetings, democratize project status & budget, enable accurate project tracking
- Implemented system that has visualization, where they previously had none, that supports decision making

Acknowledgement

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