Improving the handling of wood waste in a Sawmill Production Line

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1. The Problem

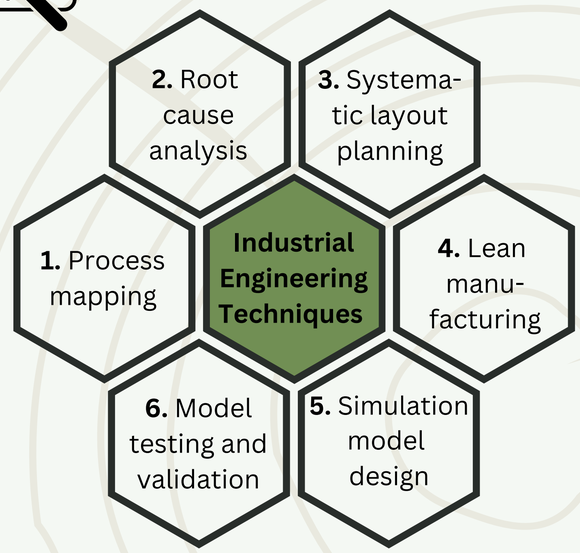
The inability of the company to effectively collect and remove wood waste from the production line in the dry mill warehouse causes damage to machines and forms blockages on conveyors. This also limits the company to sort through the waste to potentially gather useful wood pieces that can be reused and manufactured into side products.
Side products increase the recovery percentage which is the volume of useable wood extracted from a log.

2. Project Aim

The project's aim is to enhance wood waste management in the warehouse by improving waste capture, sorting, and removal. This will reduce machine damage and downtime, while also increasing material recovery.

3. Project Approach

The project approach is closely aligned with the application of industrial engineering techniques, as these techniques are instrumental in achieving the project's goals and objectives.



4. Solution and Validation

Conveyor layout: A new conveyor layout sees less wood waste congested on the conveyor line due to:

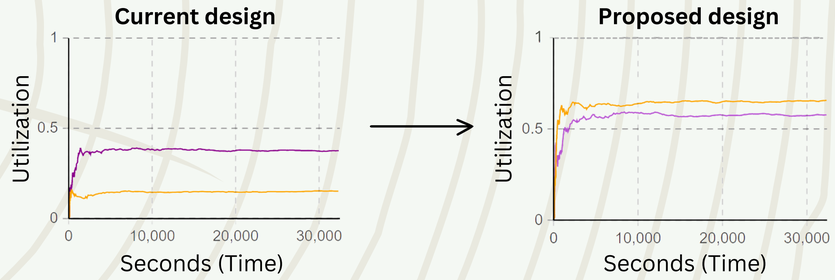
- More movable space with fewer conveyors running tightly underneath machines.
- Alterations to conveyors capturing wood waste when falling off the production line onto conveyors.

Simulation model: The new simulation model will validate any proposed solutions against unpredictable factors such as employer utilization, wood waste pile-ups anywhere around the production line and underutilized conveyors.

5. Improvements

The design of the new layout and conveyor configurations to better handle wood waste has been validated, evaluated by the simulation model, and redesigned to provide the following improvements:

1. **Better employee utilization:** The graphs show the utilization percentages of two employees. The increase in utilization is the result of more waste handling by the employees for better recovery and less conveyors implemented.



2. No machine downtimes caused by waste

3. An increase in the recovery percentage

4. Adopting lean principles to minimize waste and cost

5. The ability to start scaling operations

6. Conclusion

Rearranging the conveyor system in the dry mill warehouse reduced blockages, improved machine uptime, and enhanced wood waste recovery. Simulation modeling confirmed these improvements and highlighted opportunities for further profit gains. By embracing a lean approach with fewer conveyors and better employee utilization, the mill can scale operations more effectively.

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