
APS1013 Applying Innovation in Engineering – Final Team Projects, Fall 2010**Equipment Trucks – Operations Innovation Project****Approach & Scope**

The team was formed for the project component of the course APS1013: Applying Innovations. In the project, the team acts as consultants for an industry client. The project's primary purpose is to demonstrate the application of problem solving and innovation methodologies to the client's problem. The industry client is the Toronto branch of a specialist builder of truck bodies and equipment who is seeking to improve their overall productivity. There will be several deliverables to the peers and instructor of APS1013 throughout the course in the form of: presentations, structured discussions, and reports. The key deliverables are:

1. post-visit presentations
2. final presentation, and
3. final report.

There will be 4 meetings with the client, according to the course syllabus, for the purpose of information gathering and problem assessment; this will serve as the basis for the project outcome. In addition, the team will deliver to the client: a presentation during the final client meeting, and a modified version of the final report which is tailored to the client. The team's objective is to demonstrate applying problem solving and innovation methodologies in context of the client's problem. To achieve the objectives, the team shall:

- Meet with the client through four scheduled meetings
- Examine the client's production processes within the allocated meeting times to identify opportunities for improvement
- Identify problems in production, and their root causes
- Build case for change/improvement
- Create buy-in with the client's Equipment Management team to ensure project success
- Come up with approaches of eliminating root causes to the identified problem areas
- Support improvement recommendations with data and information
- Deliver "the way forward" proposition to the client's management team
- Reflect on each experience throughout the project

Executive Summary

The objective of the project is to assess the operations of the client to identify opportunities of improving productivity. The criteria used to identify these key problems are based on whether it would be likely for the team to develop a reasonable solution over the span of the project (3 months), and the degree to which it contributes to inefficiencies.

It is recommended that the client takes the following actions:

1. Improve their job shop production system
2. utilize visual management systems
3. adopt a culture of improvement

The first recommendation is an improved Job Shop Production System. Such a system would address weaknesses of the client's production that are currently present in Job order production and Planning and coordination. A specification of the required job shop production system to address these weaknesses was presented. The second recommendation is utilization of visual management systems – systems of

operation control tools that are based on visual recognition. Three solutions were given to the following problems related to: truck retrieval, body fabrication mix-up, and production progress and performance tracking.

This third recommendation is an abstract concept: adopting a culture of improvement. We suggest creation of a culture where all personnel should feel that it is part of their role to improve operational efficiency and performance. To contrast this is an environment where improvement and innovation is driven from the top down. Adopting a culture of improvement allows innovative ideas to be harnessed from all levels of the organizational hierarchy.

The team advises the client to proceed with the recommendations with diligence and caution, particularly if it is decided that they need a new system to carry out desired functions. Job shop production software systems are expensive, and require an investment in money and time.