GENERAL MOTORS

Manufacturing System Data Integration Strategy

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General Motors (GM) is an American multinational automotive company that manufactures cars and trucks in 35 countries. Every day, GM faces the challenges of managing over $50 billion in assets and ensuring a steady flow of data to and from plant workers maintaining those assets on production lines.

The Tauber team's objective was to develop a mobile solution that provided maintenance workers with structured process and information access by equipping them with tablets. The primary project goals were to help workers reduce machine repair time while also providing GM with data to make better decisions on investing over $5 billion on assets annually. Currently, GM has limited ability to provide workers with fast access to information they need to correct machine errors, while complicated reporting procedures have hindered GM's ability to make data-driven decisions on asset investments.

In order to develop recommendations, the team analyzed extensive historical data on maintenance faults, examined processes at GM's Lansing Delta Township (LDT) plant, and prototyped different software features. The team configured a tablet with all their recommended functionality and provided a technical document guiding setup and operation.

To analyze the maintenance process, the team collaborated with maintenance workers to map out standard steps and ran simulations, which produced thorough data on time spent on each activity. It was calculated that leveraging tablets would improve over 20 activities, reduce maintenance time in the LDT Body Shop by an estimated 16.7%, and lower the mean time to repair by 3%. Scaled to all GMNA operations, over $90 million could be saved annually. Faster access to GM's enterprise asset management software provided by tablets would also overcome many time constraints that have hindered reporting of maintenance tasks. This will, in turn, provide key data metrics to GM's financial planners, creating additional benefits for improved asset management.

The Tauber team's recommendations specified how tablets can be optimally integrated into maintenance processes and provided a structured framework for how this can be applied at any GM plant. The team's proposed mobile solution would create a flow of data previously unseen in GM's manufacturing operations, achieving immediate and long-term benefits for an array of stakeholders throughout the organization. If implemented throughout all manufacturing in GM North America (GMNA), the team estimated the company would save over $90 million annually in increased labor and production efficiencies.