

Proceedings of the 5<sup>th</sup> Annual World Conference  
of the Society for Industrial and Systems Engineering,  
San Francisco, CA, USA  
October 13-14, 2016

## Use of the Economic Order Quantity in Tool Calibration Scheduling

**J.M. Parton, N. Alhendi, M. Alwashmi, and S. Keomany**

Department of Industrial and Manufacturing Engineering  
Wichita State University, Wichita, KS, USA

Corresponding author's Email: [jparton@jfa-inc.com](mailto:jparton@jfa-inc.com)

**Author Note:** The authors of this paper are undergraduate students in their final stages of completing their Industrial Engineering bachelor's degree.

**Abstract:** The information in this paper is based upon the authors project, which was completed in the fall of 2015 at Wichita State University (WSU). The students were assigned this project as a part of their Senior Design project requirement for completion of their bachelor degree. The project was based in a manufacturing environment where low volume production occurs. The projects objective is to create a method to ensure that certain tools, which require calibration, were being calibrated by their respective due dates. This needed to be done while also being able to control the amount of inventory for each calibrated tool. To approach this objective, the authors used the Economic Order Quantity to ensure on time calibration of each tool. Proper tool inventory levels were determined based upon assumptions developed by the project team. This paper seeks to explain the use of the EOQ model in this project.

*Keywords:* Economic Order Quantity, Calibration, Inventory Levels