Oral Defense Announcement
University of Missouri – St. Louis Graduate School

An oral examination in defense of the dissertation for the degree
Doctor of Business Administration with an emphasis in Operations Management

Christopher J. Anderson

Master of Business Administration – Pepperdine University, 1990
B. Sc. Electrical Engineering – Southern Illinois University, 1984

Forecasting Demand for Optimal Inventory with Long Lead Times:
An Automotive Aftermarket Case Study

Date: November 12, 2021
Time: 10:00 a.m. to 11:00 a.m.
Place: Anheuser Busch Hall

Abstract
Accuracy in predicting customer demand is essential to building an economic inventory policy under periodic review, long lead-time, and a target fill rate. This study uses inventory and customer service level as a stock control metric to evaluate the forecast accuracy of different simple to more complex predictive analytical techniques. We show how traditional forecast error measures are inappropriate for inventory control, despite their consistent usage in many studies by evaluating demand forecast performance dynamically with customer service level as a stock control metric that includes inventory holdings costs, stock out costs, and fill rate service levels. A second contribution includes evaluating the utility of introducing more complexity into the forecasting process for an automotive aftermarket parts manufacturer and the superior inventory control results using the Prais-Winsten, an econometric method, for non-intermittent demand forecasting with long-lead times. This study will add to the limited case study research on demand forecasting under long lead times using stock control metrics, dynamic model updating, and the Prais-Winsten method for inventory control.

Defense of Dissertation Committee
Chairperson, Keith Womer, Ph.D.
Committee Faculty Member, George A. Zsidisin, Ph.D.
Committee Faculty Member, Hung-Gay Fung, Ph.D.