Announcing the Final Examination of Murad Andejany for the degree of Doctor of Philosophy

Time & Location: April 6, 2017 at 8:00 AM in ENG2 312L

Title: A FRAMEWORK FOR LEAN TRANSFORMATION IN DEVELOPING COUNTRIES: THE CASE OF SAUDI ARABIAN INDUSTRY

Lean is a dynamic, knowledge-driven, and customer focused philosophy that continuously eradicates waste and generates value, with a goal to improve a company’s productivity, efficiency, and quality. Successful implementation of lean does not only offer cost reduction and improved quality and productivity, but also provides efficient guidance for organizations to attain significant and continued growth. Although its adoption by companies has proven successful in developed countries, there is no sufficient evidence of its successful implementation in developing countries such as Saudi Arabia. A review of literature indicates that there is a need to study lean transformation in developing countries as part of its comprehensive approach to their survival in the global economy. The purpose of this research is to develop a framework for a successful lean transformation in developing countries. The framework was developed by conducting a thorough literature review analysis and interviewing key personnel in ten local and eight multinational Saudi Arabian companies. The framework reacted to general data about lean transformation in developing countries, assessed a lean transformation level, and constructed the Interpretive Structure Molding (ISM) for barriers to achieve a successful lean transformation. Expert opinions were used for validation of the main components of this study, which are assessment, barriers, ISM and framework.

Similar to the literature findings, which indicated that the level of successful lean transformation in developing countries is low, the assessment revealed that the lean transformation level in local companies in Saudi Arabia is between 30% - 40%, and in multinational companies the level is between 50% - 60%. Both local and multinational companies in the case of Saudi Arabian industry considered lack of suppliers’ involvement, lack of cooperation from suppliers, lack of good quality suppliers, and slow response to market due to demand fluctuations, as the root barriers that need to be addressed at the primary stages of lean transformation. The resulting framework provides clear phases with an estimated timeline for each phase, from the foundation phase to the excellence level phase. This enables companies in developing countries to move toward achieving a successful lean transformation and sustainability as well as reaching higher and persistent levels of growth.

Major: Industrial Engineering

Educational Career:
Bachelor's of Industrial Engineering, BS, 2003, King Abdulaziz University
Master's of Industrial Engineering, MS, 2009, King Abdulaziz University
Master's of Industrial Engineering, MS, 2015, University of Central Florida

Committee in Charge:
Ahmad Elshennawy, Chair, Industrial Engineering and Management Systems
Luis Rabelo, Co-Chair, Industrial Engineering and Management Systems
Gene Lee, Industrial Engineering and Management Systems
Mohammed Darwish, Industrial & Management Systems Engineering, Kuwait University

Approved for distribution by Ahmad Elshennawy, Committee Chair, on March 13, 2017.

The public is welcome to attend.