

## Impact Assessment of Lean Practices on Social Sustainability Indicators: An Approach Using ISM Method

**Authors :** Aline F. Marcon, Eduardo F. da Silva, Marina Bouzon

**Abstract :** The impact of lean management on environmental sustainability is the research line that receives the most attention from academicians. Therefore, the social dimension of sustainable development has so far received less attention. This paper aims to evaluate the impact of intra-plant lean manufacturing practices on social sustainability indicators extracted from the Global Reporting Initiative (GRI) parameters. The method is two-phased, including MCDM approach to uncover the most relevant practices regarding social performance and Interpretive Structural Modeling (ISM) method to reveal the structural relationship among lean practices. Professionals from the academic and industrial fields answered the questionnaires. From the results of this paper, it is possible to verify that practices such as "Safety Improvement Programs", "Total Quality Management" and "Cross-functional Workforce" are the ones which have the most positive influence on the set of GRI social indicators.

**Keywords :** indicators, ISM, lean, social, sustainability

**Conference Title :** ICIEOR 2019 : International Conference on Industrial Engineering and Operations Research

**Conference Location :** San Francisco, United States

**Conference Dates :** June 06-07, 2019