

## Outcome based approach to lean and green manufacturing processing

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### ABSTRACT

Manufacturing industry has been contributing to global economy since the first industrial revolution. Since then, factories are built to supply manufactured goods (e.g. vehicle, toy, gloves and etc) around the globe. With the increase in manufactured goods demand, manufacturing industry has contributed to global warming directly. This increased in concern of global warming and resources depletion, the sustainability of manufacturing industry will be jeopardized. Lean and green approach is being introduced to manufacturing industry to assist the industry player to be more competitive without compromising the environment. The distinctive benefits and advantages of lean manufacturing can be observed through Toyota production system. Green manufacturing approach is adopted to reduce environmental pollution. Synergy of lean and green manufacturing will increase production value while limiting environment damage. The aim of this paper is to propose a framework to evaluate lean and green practise in the manufacturing industry. Outcome based model is used to evaluate the relationship between the expected outcome of lean and green and the five components (e.g. manpower, machine, money, material and environment). The relationship between of expected outcome from all components are shown in hierarchy network. The outcome hierarchy network will be further used to develop lean and green checklist. The checklist is used as data collection tool for data analysis purposes. Checklist also helps the industry player to have a better understanding and implementation of lean and green approach.

### KEYWORDS

Green manufacturing; Global warming; Lean manufacturing

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