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Lean and Green: Study on Integrated Practices

SANT'ANNA, P. R.^a, CAMPOS, L. M. S.^{a*}

a. Universidade Federal de Santa Catarina, Florianópolis

**Corresponding author, lucila.campos@ufsc.br*

Abstract

Context: Increasingly, organizations find themselves forced to expand their productivity by reducing costs and ensuring quality. In addition, the strong scarcity of resources and high levels of pollution have led the government to interfere in this process, by creating laws to control the environmental impact that these companies generate. Firms willing to reduce waste have already adopted lean manufacturing and also environmental management as an approach to control impacts.

Gap: The joint action of both models leads to the new management approach called Lean and Green (LG). However, it appears that studies on LG are few, not showing how organizations can act in order to achieve results for both models.

Purpose: This paper aims to propose a list of practices that companies could adopt in case it wishes to lean and to be environmentally friendly at the same time.

Methodology: For this purpose, an exploratory research was carried out, resulting in 43 papers related to Lean and Green practices. Secondly, all practices found in each paper were listed up, to finally filter those that can be classified as LG, in agreement with previous studies.

Results: As a result of the research, a table of LG practices is presented. It can be consulted by organizations wishing to reconcile the two theories in their production routines. It happens that some lean practices need to be adapted in order to be classified as LG.

Conclusions: The results show being possible to apply the LG management model in practice, with only the adoption of lean manufacturing and environmental management practices that converge on purpose. There is a wide gap in the field of how environmental management can influence on lean manufacturing, since most of the analysis presented are given in the opposite direction. Finally, the implementation of lean practices itself do not guarantee outcomes enough to meet the requirements of environmental laws.

Keywords: *Lean and green, lean manufacturing, environmental management, practices.*
