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Ecological Cost Account Application in a Lean Manufacture Brazilian Automotive Project

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Abstract

Currently, the society has demanded attitudes from companies to reduce environment impacts derived from manufacturing processes and to reduce emissions from greenhouse gases. The Ecological Costs Accounting (ECA) is a theory for the companies to measure these impacts and then apply practices to solve them in an economically feasible, with social attitude and environmentally friendly. Thus, this study aimed to apply the Lean Manufacturing practices together with ECA's theory in an automotive company, in order to verify their gains in Economic, Social and Ecological Dimensions. Thus, a study of case was developed in a Brazilian automotive company, in which was implemented a Lean Manufacturing project and their economic, social and environmental gains in seven years period. The obtained results show that it is possible to mix Lean Manufacturing practices with ECA's theory, in order to minimize company's social and ecological impacts. It was verified that the company obtained a cost reduction about R\$ 118 thousand/year, improving their image for the society and reducing employees efforts, reducing their emissions in 481 t of CO₂, which can be commercialized as carbon credits and there was a reduction of electrical energy consumption over 2.803 thousand kW/year.

Keywords: *ecological costs accounting, lean manufacture, environmental credits, reduction of environmental impacts*