



13th International Conference on Industrial
Engineering and Industrial Management

XXIII Congreso de Ingeniería de Organización



**Organizational
Engineering
in Industry 4.0**

BOOK OF ABSTRACTS

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**“13th International Conference on
Industrial Engineering and
Industrial Management” and
“XXIII Congreso de Ingeniería de
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Ecodesign practices and their impact on the results of leading industrial companies in environmental performance. An exploratory research from a qualitative perspective

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Keywords: Product design; Environmental sustainability; Life Cycle Thinking

1 Introduction

Trying to better meet the expectations of markets that demand more environmentally sustainable products requires adapting quickly and changing the traditional environmental management model. It is necessary to take into account those environmental aspects not considered until now, generally over which the company does not have a direct influence capacity. For this, companies must incorporate the environmental variable from the perspective of the product's life cycle.

2 Objectives

The research has been focused on the analysis of the adoption of design and development practices in industrial companies, integrating the environmental variable into the process from a life cycle approach. Likewise, its impact on the company's management system, operational processes and business results has been analyzed.

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3 Methods

Being an exploratory research, a Delphi methodology has been applied, combined with a set of in-depth interviews, developed in three successive phases and based on the opinion of a group of 24 experts from different fields: 9 belonging to industrial companies from four sectoral groups (chemical, electrical-electronic, capital goods and furniture), 5 to auditing companies, 4 to consulting firms, 2 to academic experts, 3 to public institutions and one member of the *Basque Ecodesign Center* cluster.

4 Results

The growing interest of markets for more environmentally sustainable products, the search for new innovation tools or the need to be different with respect to competitors are aspects that have determined the commitment of all industrial companies to create environmentally better products. The introduction of life cycle thinking in the design and development of the product system provides a new perspective on the process and the associated processes. But integration is not without difficulties.

The marketing area or the commercial areas do not share the vision of the rest of the organization. The effort of environmental improvement implies, in many cases, a slight increase in the cost of the product, which is reflected slightly in the final price. But the customer does not appreciate the improvement of environmental behavior as an argument for purchase more on its own.

5 Conclusion

The design and development of products, including the improvement of environmental performance among their premises from a life cycle approach, contributes to improving key factors of products or services such as quality, safety, energy efficiency in the phase of use or the generation of less waste at the end of life. These improvements give the customer an image of an innovative company that is sensitive to the environment. Although in the chemical and electrical-electronic sectorial groups companies consider that it is an important differentiating factor, this improvement in the image of the product and company is not key to differentiate itself from the competition in the other sectors. It is necessary that public administrations promote measures that favor the development of "green" markets.

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