

Integration of Design Management in the Product Development Process in SME's

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Abstract : In the European Union countries, Small and Medium-Sized Enterprises (SME's) have an important contribution to economic activity and to the Gross Domestic Product (GDP). The implementation of design practices in SME's is often a difficult task due to resources limitations. Unlike large companies, their product development and innovation processes frequently lack adequate planning and systematic procedures. Design management interest has grown exponentially in recent years, but as it is a recent topic there is an absence of systematic methodologies to implement design management in SME's with little or no design experience. This work presents a contribution to improve and optimize the process of design integration and management in SME's. A review analysis is presented to select relevant articles on the subject, review and classify the main published contributions. Based on the selected articles content it was possible to identify five main themes related to the subject under analysis: Design Function Organization, Design Management Integration, Design Management Capabilities, Managing Design Projects, and Tools and Methods. Design management is discussed from different perspectives depending on the focus on which it is placed, whether in a design or management perspective, leading to different visions and definitions: from a more upstream strand at the intersection of design and the organization's strategic management (strategic design management) to a more downstream strand related to project management and design process (design management operational). The review analysis of the selected articles allowed the identification of a high level of complexity of connections and parameters in the design management during the product development process in the context of SME's. Within each group of the five main themes, several sub-themes, directly or indirectly related, should be considered. Sub-connections also occur between sub-themes of different themes creating a complex and intricate web of connections. This complexity of connections is often the main obstacle to conduct design management and product development efficiently. This work proposes a formulation of a systematic methodological approach to optimize the integrated project and the management and control of the product development process among SME's. The implementation of this formulation will improve the integration of design management in the product development and innovation process in SME's.

Keywords : design management, product development, product innovation, SME's.

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