

Sustainability Assessment Model in Product Development

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Abstract. Faster and more efficient development of innovative and sustainable products has become the focus for manufacturing companies in order to remain competitive in today's technologically driven world. Design concept evaluation which is the end of conceptual design is one of the most critical decision points. It relates to the final success of product development, because poor criteria assessment in design concept evaluation can rarely be compensated at the later stages. Furthermore, consumers, investors, shareholders and even competitors are basing their decisions on what to buy or invest in, from whom, and also on what company report, and sustainability is one of a critical component. In this research, a new methodology of sustainability assessment in product development for Malaysian industry has been developed using integration of green project management, new scale of "Weighting criteria" and Rough-Grey Analysis. This method will help design engineers to improve the effectiveness and objectivity of the sustainable design concept evaluation, enable them to make better-informed decisions before finalising their choice and consequently create value to the company or industry. The new framework is expected to provide an alternative to existing methods.

