Abstract

Today's business world is changing due to the ever-increasing consciousness for environmental protection and sustainable development. Customers are taking into account environmental considerations in their supplier selection, and are increasingly buying products with identifiable environmental attributes. In this study, the critical decision criteria, sub-criteria and benefits of the adoption and implementation of the ISO 14001-based environmental management system (EMS) in the Malaysian oil and gas sector were studied using the analytical hierarchy process (AHP) approach. An empirical study was performed to investigate the relative weights and priorities of these criteria and benefits. An AHP decision model of EMS adoption was established and a set of decision criteria, sub-criteria and benefits were evaluated with the assistance of a computer software, Expert Choice™. By consolidation and analysing the judgements of expert evaluators comprising industry personnel and environmental consultants, a model was developed which is suitable for use in the decision-making process of the EMS adoption and implementation. Based on the findings of the study, the model can be potentially used as decision support tool for environmental management within an industry or organisation to study the ISO 14001 implementation process. The model provides an effective means to assist in the determination of critical decision criteria, sub-criteria and benefits, and assess the effectiveness of EMS adoption.