

Applying the expert system technology to evaluate ecotourism sites based on safety, health and environmental quality assurance

ABSTRACT

Ecotourism in Malaysia has proven to be a very lucrative market and continues to grow at phenomenal rates. The ecotourism concept emphasises the maximisation of the ecological interest areas with minimum destruction of the local equilibrium. A systematic expert rating system is developed to maintain a certain level of standards based on different levels of categorisation to ensure the sustainability of these ecotourism sites. The initial study for this research included a literature review on the existing rating and ranking system used in the hospitality and tourism sector. The findings of the research are combined with the opinions among local residents, officers (ecotourism operators) and visitors to make the decision, and to be converted to rules to be used as the basis for the construction of an expert system. The expert system developed used 3 levels of cumulative rating: the filtration module, basic compliance module and the advance compliance module. In the filtration module, sites are rated according to the level of compliance to the ecotourism definition and the existing legislation covering the ecotourism industry in Malaysia. Basic compliance module rates sites according to the compliance of safety, health and environment for the ecotourism value, qualification of the operator manning the site, permitted and not permitted activities. The final level of advance compliance rates sites for safety, health and environment as well but for the tourism impact and the site planning and management of the site. The expert system developed uses a web-based information-sharing platform in line with the existing legislation on safety, health and environment. Where no guidelines are available, recommendations based on the domain experts, literature and field survey statistics are incorporated. The web designing is done using HTML codes and Java Scripts. The on-line database is designed using MS-Access 2000 back-end database engine, which encompasses Standard Query Language (SQL) and Active Server Pages (ASP) as part of the rule based expert system shell.

Keyword: Expert system; Ecotourism; Rating; Evaluation; Active server pages