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An Empirical Study on the Construction of Sustainable Development

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(including questions)**

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For a better understanding of the application of sustainability in sport center management, it is essential to recognize and develop a framework of sustainability indicators that can be utilized to test this. The demand for sustainability, meeting the needs of the present without compromising the ability of future generations to meet their own needs (Brundtland Commission 1987), is forcing all Sport Facilities in Taiwan to conform. The governments plans to encourage health awareness, promote sport for all, construct sports centers island-wide, bid for mega sports events, construct facilities for hosting the 2017 University Games, to promote Taiwan's image through sport, are all based on the awareness of including sustainability. As peoples individual consumption behavior changes because of this new awareness, significant pressure is put on a sports facility, as sustainability not only affects it's profitability, but is more likely to affect its image and competitiveness (King & Lenox, 2001; Koehler & Cram, 2001; Margolis & Walsh, 2001). This means corporate actions and policies must not only comply with internal interested parties (shareholders, employees, managers, etc.), but also meet the expectations of external stakeholders (consumers, the local community, vendors, etc.) (Geibler & Kuhndt, 2004; Bansal, 2002; Hockerts, 1999), and they need to be assessed, based on meeting these needs.

Most of the current research on sustainability has been conceptual, ecologically based or has been comprehensively codified in the Global Reporting Initiative (GRI 2002) or the Sustainable Sport and Event Tool Kit (AISTS, 2009). Emery (2010) indicates that currently there is a desire for sport event management practices that have an "outward looking global focus of more sustainable management practice", however there has been no empirical study, either locally or internationally, that examines and evaluates a sports facility, already constructed or in the planning process, to assess it's sustainability practices. In accordance with this need, this study uses the values of the sustainable development concept, to select and construct a framework of indicators, and then empirically test them to see if their indications are valid or not.

Through an analysis of the key policy documents on sustainability, some of the key assessment indicators were selected and interviews were held with experts to identify which indicators, based on the concept of the triple bottom line (John Elkington 1997), should be incorporated into the draft sports complex performance assessment framework. Then using the Fuzzy Delphi process, a questionnaire was sent to a total of 21 experts combined from industry, government, and scholars, to ensure the feasibility of the proposed framework and a Fuzzy Analytic Hierarchy Process was carried out, to set a relative weighting for each of the evaluation indicators for each facility. An assessment team composed of 3-5 scholars and experts, then visited all 4 sites, and scored there performance between 0 to 100 points for each of the 44 assessment indictors. A Simple Additive Weighting measured the four different venues sustainable development performance.

The results of the framework construction, showed that the experts believed that from the seven dimensions in the second-level, the most important indicators where 'environmental costs', followed by 'natural ecology', 'financial audit', and 'interested parties'. Through the FAHP empirical analysis, a weighting for each of the indicators within the study was found for each of the four different sports venues (indoor coliseum - Kaohsiung Arena, outdoor stadiums - the Kaohsiung Dragon National Stadium, the school gymnasium - Taiwan University Gymnasium and Sports Center - Daan Sports Center). In the first level, the environment was ranked first, followed by the economic and social aspects. In the second level, environmental costs, natural ecosystems, financial audit, to create revenue, and social, were the 5 highest ranked indicators.

The findings revealed the top five leading indicators for the three venues, Taipei Municipal Daan Sports Center, Kaohsiung Arena Stadium, and the National Taiwan University Gymnasium, were identical and were for "preparation of financial statements", "to set up a equipment management system", "annual financial target achievement rate", "to set up an audit system' and 'facility maintenance". The five lowest performing indicators were 'the lack of drive in fostering local sports clubs to utilize venue', 'assisting local sports development', 'nurturing talent and establishing a

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training base for athletes', 'promotion of sports and health information' and 'failing to develop community relations'. The indicators for the Kaohsiung National Stadium performed much better in regard to the environmental indicators than it achieved with the economic indicators.

The results suggest that this sport facility assessment framework is a useful tool to provide relatively objective data to provide specific recommendations on the future operation and management of Taiwan sports venues. The current financial focus of public sports facilities is in complete contrast to their objective of serving society and are failing in regard to: environmental protection, building community social responsibility by promoting community development, and maintaining good relationships with all interested parties. There are some positive signs, but Taiwan sports facility managers must address these findings in order to achieve their vision of sustainability. This paper aims to enable sport organizations to understand what they have achieved so far, to identify where they are lagging and ultimately give them a tool to incorporate sustainability into their business practices. The author hopes to initiate a greater amount of research, by sporting scholars, undergraduate and graduate sport management students and practitioners, to build, to refine and test assessment frameworks.