ASSESSING THE CULTURAL SIGNIFICANCE OF ARCHITECTURAL HERITAGE IN EGYPT

AN INTELLIGENT MULTI-CRITERIA DECISION SUPPORT SYSTEM

By:

Mohamed Ali Maher Metwally

A Thesis Submitted To The
Faculty Of Engineering At Cairo University
In Partial Fulfillment Of The
Requirements For The Degree Of
DOCTOR OF PHILOSOPHY
IN
ARCHITECTURAL ENGINEERING

Faculty of Engineering, Cairo University
Giza, Egypt
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Under supervision of:

Prof. Dr. Amr Mostafa Kamal El Halafawy
Professor of Architecture & Urban Design
Department of Architecture

Prof. Dr. Amr Sherif Neuman (R.I.P.)
Professor of Architecture
Department of Architecture

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Prof. Dr. Amr Mostafa Kamal El Halafawy …..……..
Professor of Architecture & Urban Design (Main Supervisor)
Department of Architecture, Faculty of Engineering, Cairo University

Ass. Prof. Dr. Hisham Amr Bahgat ……..…
Associate Professor of Architecture & Urban Design (Internal Jury)
Department of Architecture, Faculty of Engineering, Cairo University

Ass. Prof. Dr. Diaa Eldin Ibrahim Hanafi …….……..…..
Associate Professor of Architecture & Urban Design (External Jury)
Department of Architecture, Faculty of Engineering, Ain Shams University

2014

Engineer: **Mohamed Ali Maher Metwally Ahmed**
Date of Birth: **17 / 08 / 1974**
Nationality: **Egyptian**
E-mail: **Designtech@link.net**
Phone: **0122 318 68 74**
Address: **101 Sudan St., Mohandeseen, Giza**

Registration Date: **19 / 6 / 2007**
Awarding Date: **/ /**
Degree: **Phd**
Department: **Architecture Engineering**

Supervisors: **Prof. Dr. Amr Mostafa Kamal El Halafawy**

Examiners: **Prof. Dr. Amr Mostafa Kamal El Halafawy**
Ass. Prof. Dr. Hisham Amr Bahgat
Ass. Prof. Dr. Dia El Din Ibrahim Hanafy - Department of Architecture, Faculty of Engineering, Ain Shams University

Title of Thesis:

"Assessing The Cultural Significance Of Architectural Heritage In Egypt: An Intelligent Multi-Criteria Decision Support System"

Key Words: **MCDA – Cultural value – Architectural Heritage – FDM – AHP**

Summary:

The research represents a model for evaluating the intrinsic value of architectural heritage. It brings together the key literature in relation to both the principles of values related to Architectural Heritage, the methodologies for assessing architectural heritage values and the various practical assessment approaches that exists in the literature, into an integrated framework.

According to the literature review and gathering expert opinions, six criteria for intrinsic value assessment were identified to evaluate the intrinsic values of architectural heritage using fuzzy Delphi method (FDM) , the group decision making (Expert Choice) was used to determine the relative importance of evaluation criteria and identify criteria indicator relative weights and the relationship between them. The Expert choice is based on Analytical Hierarchy Process (AHP), criteria and its indicators were judged against three alternatives for conservation decision.

Statement of significance flows directly out from the assessment decision model, through scoring the pre-weighted criteria evolved from the list of standardizing judgments that were based on professional experience using (FDM) and aggregated through a multi-criteria decision analysis method (AHP).

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