بسم الله الرحمن الرحيم

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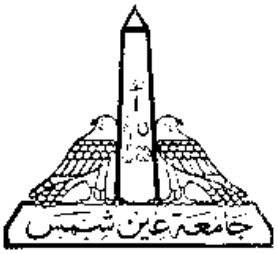
تم رفع هذه الرسالة بواسطة / سامية زكى يوسف

بقسم التوثيق الإلكتروني بمركز الشبكات وتكنولوجيا المعلومات دون أدنى مسئولية عن محتوى هذه الرسالة.

ملاحظات: لا يوجد



Ain Shams University
Faculty of Engineering
Architecture Engineering

The Potential of Facility Managers, as an Advocate for Sustainable Retrofitting of Heritage Buildings in Egypt.

A Thesis submitted in partial fulfilment of the requirements of the degree of
Master of Science in Architectural Engineering

(Architecture Engineering)
By

HabibaTallah Omar Mohamed Shafick Elshabrawy

Bachelor of Science in Architectural Engineering Faculty of Engineering,
British University in Egypt, 2017

Supervised By

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Cairo - (2022)

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Date:…./…./2022

STATEMENT

I submitted this thesis as partial fulfillment of Master of Science in Architectural Engineering, Faculty of Engineering, Ain shams University.

The author carried out the work included in this thesis, and I have submitted no part of it for a degree or a qualification to any other scientific entity.

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ACKNOWLEDGEMENTS & DEDICATION

بسم الله الرحمن الرحيم

فالله خير حافظا وهو أرحم الراحمين

To begin, I want to express my gratitude to ***Allah*** for His guidance and blessings in achieving this goal. I've had such a hard time since July 2019, but believe that ***Allah*** is the best to take care of me, and He is the Most Merciful of those who show mercy. I'm thankful every day for breathing and having the chance to say ***الحمدالله***.

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Last, but not least, I dedicate this thesis to my grandmother Nemaat Sheha.

اهداء الي نعمات شيحا

أسأل الله بأن يجعلك من أهل الجنة والفردوس الأعلي اللهُم في كُل دقيقه تمر على نعمات بنت عائشة أسألك أن تفتح لها باباً تهب منه نسائم الجنه لا يُسد أبداً اللهم قها عذابك يوم تُبعث عبادك، اللهم ارحم نعمات بنت عائشة واجعل قبرها روضه من رياض الجنة. و ثبتها على الصراط المستقيم و ثبت أقدامنا و اجعلنا و اجعلها في منزلة الصديقين و الشهداء و زي ما كانت بتدعي و يارب تكون في نفس المنزلة توفنا مع الابرار يا عزيز يا غفار .

ABSTRACT

It's commonly acknowledged that the conservation of the value of heritage buildings is crucial to any culture which gains revitalization. As conservation is essential for understanding the country's background through preserving and controlling. Specific policies or strategic management plans do not guide most of the current practices regarding management and conservation. There has been an emphasis on sustainable building development recently as a means for heritage buildings to contribute to sustainability. The insight of sustainability has gained wide acceptance in policy and rhetoric and can also be viewed from different perspectives. The diversity of perspectives on sustainability poses a challenge to the design of these means. Facility management is a technique for ongoing and long-term development that enables effective facility operation and maintenance. The operational phase of a building is critical not just for energy efficiency, but also for addressing other sustainability issues. The main problem of this research that Heritage buildings risk assessments deliberated that there are critical risk factors, such as retrofitting cost, inflation, energy-saving uncertainty, warranty risk, delay in project completion, productivity and quality risks, the requirement of permits and their approval, design changes, damage to structure or property and operation as well as, maintenance. The primary aim of this research is to analyze the current practices and evaluate the risks associated with sustainable retrofitting facility managers in heritage buildings in Egypt to develop a management strategic framework using Heritage Building Information Management (HBIM), facility managers, and Stakeholder's engagement. The developed framework can be used as a basis for mitigating the risks related to sustainable retrofitting for heritage buildings. To extract lessons learned for management of heritage building conservation. It implemented a qualitative analysis through a literature review to document the nature of heritage building reused through literature. A comprehensive comparative analysis of several case studies followed this for heritage buildings in Egypt. Finally, the research will raise awareness of heritage sustainable retrofit as well as the proper risk management strategies in current practices that will influence decision-makers and facility managers in future heritage retrofit projects.

Keywords:

Sustainable Retrofitting, HBIM, Facility Management, Stakeholders Engagement and Risk management

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