بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
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Ain Shams University
Faculty of Engineering
Architecture Engineering

Analysis of Stakeholders Related Risks: Integrating FM and BIM in Mega Construction Projects

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

By

Yasmeen Abdel Mohsen Ahmed Wasfy

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

Supervised By

Prof. Dr. Ali Eid
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Cairo – (2021)

Ain Shams University
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Statement

This thesis is submitted as a partial fulfilment of Master of Science in Architectural Engineering, Faculty of Engineering, Ain shams University.

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

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'' بسم الله الرحمن الرحيم ''

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ABSTRACT

Efficient integration of Facility management and BIM in mega construction projects is considered a key stone for analysing the stakeholders related risks thus, accomplishing projects success with minimum risks and uncertainties. A lot of mega projects have been through high risks which according to studies are mainly cost overruns, and delays because of the great number of stakeholders; So far, a recommended solution to such risks and tricky problems is integrating facility management and BIM through a model of the project that may be updated several times to mitigate the stakeholders' related risks by making them updated throughout the project phases.

Lately, as the construction industry in Egypt has been facing a paradigm shift and technical expansion, Construction megaprojects have been a main characteristic in Egypt for the past years. The country has made significant and multifaceted efforts to grow its economy by both attracting foreign investments for a wide range of economic activities as well as developing its export capabilities. In 2017, the Egyptian government promulgated the new investment law No. 72 of 2017. The new law was expected to stimulate investment in the economy which in turn boosted the construction sector. There are currently many active projects worth over USD 335 billion, across all sectors including hospitality, real estate, transport and energy infrastructure. This approach took a place, into an integrated approach of facility managers and BIM. The integration of BIM and FM aims to increase the productivity, efficiency, and quality, which will reduce stakeholders' risks such via effective collaboration and communication of stakeholders in construction projects.

Consequently, the thesis aims to extract a model that evaluate the impact of the integrated BIM FM approach on mitigating SH related risks in Mega construction projects as it's been a trend now in Egypt in the new administrative capital and new Alamain city.

Finally, build on the literature, case studies and the experts' opinions, a framework has been extracted for the practical actions for the industry players to ensure a successful risk mitigation plan for cross cultured stakeholders through integrating both BIM and FM in the mega construction projects in Egypt.

Key words: Facility Management (FM); Building information modeling (BIM); Cross-cultured Stakeholders (SH), Mega Construction Projects (MCPs), Risks.

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