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

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Analyzing the Impact of Using Building Information Modeling BIM on Control Risk in Construction Projects

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A Thesis submitted in partial fulfillment for the Requirements
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STATEMENT

This dissertation is submitted to Ain Shams University for the degree of Master of Science in Civil Engineering (Structural Eng.).

The work included in this thesis was carried out by the author in the Structural Engineering Department, Faculty of Engineering, Ain Shams University, Cairo, Egypt.

No part of this thesis has been submitted for a degree or qualification at any other university or institution.

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ABSTRACT

Analyzing the Impact of Using Building Information Modeling BIM on Control Risk in Construction Projects
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Construction projects face numerous constraints on their life cycle. Construction projects may be subject to various risks (external risks-internal risks).This is mainly due to poor planning, coordination and poor communication between the parties to the project. There is a requirement for better instruments and the increased utilization of innovation to control risk in construction projects.
Building Information Modeling (BIM) is a shrewd 3D model-based procedure that gives design, building, and development (AEC) experts the insight and devices to all the more effectively plan, design, build and manage buildings and infrastructure.

This research studies the impact of implementing building information modeling (BIM) technology on the mitigation of construction projects' risks such as: (scope creep- budget risk- resistance to change- resource risk- contract risk). The project's risks not only shown in time and cost but time and cost are represents most of risks with digital values.

The research also included an assessment of the extent to which BIM systems were used in the design and implementation stages and the importance of their use in reducing the risks facing the project by circulating a questionnaire targeting the first and second categories of the contractors in Egypt because they working on the mega projects which needs to implement BIM on it.There were 140 copies of questionnaires distributed to the potential respondents in the organizations within the construction industry, 100 copies (70 percent) returned. The collected questionnaires were reviewed and analyzed by the SPSS

(Statistical Package for Social Sciences) program. Four case studies are investigated to study the impact of BIM uses.

Findings an increase in the rate of construction products in the case of the application of BIM technology due to reduced re-work and wasted time and avoid a large number of problems of lack of information required in the implementation phase and resolve conflicts.

The results showed that the BIM systems, despite their low use in Egypt, had received the administration of many of them because it is important to raise the efficiency of work by improving communication between all parties to the project at an early stage. In the end, BIM dangers and future difficulties for the development business are examined.

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