بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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شبكة المعلومات الجامعية

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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
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تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

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Abstract

There are three main criteria that account for a construction project's success: completion on-time, within budget, and following the specifications. Nowadays, the subject of delays is considered one of the most challenging problems for construction projects, particularly in Egypt. Delay occurrence normally leads to an increase in the project's time and so its cost. Analyzing the factors of construction projects' delays in Egypt while attempting to mitigate their impact is a matter of crucial importance; that's why a systematic processing framework was developed. Considered as one of the main elements for this framework, a survey questionnaire was conducted among the relevant key parties in the Egyptian construction industry. The aim was to assess the relevance and impact of the various delay causes on construction projects, to identify the responsible party as well as to evaluate the effect of using the Building Information Modelling (BIM) on construction delays. Besides, a user program was developed to help assess the delay causes' impact on the construction project's concerned activities using BIM. The program was also designed to assist the user in identifying the potential suitable mitigation measures according to the delay cause type. Thus, this research promotes the implementation of a systematic processing framework, by using a developed user program, to outline a course for examining delay claims' factors for construction projects in Egypt while validating the outcomes through a survey questionnaire. One of the study's main objectives is to investigate the delay causes' effect on the construction project's duration and cost. The developed user program achieved this by analyzing the concerned activities' affected duration and cost following the selected delay cause and its associated mitigation measures. BIM was the platform used for the developed plug-in to carry out such analysis. Then, the project's concerned activities' duration and cost outputs analysis were presented to highlight the main findings in terms of delay/saving impact. These findings aimed to emphasize the percentage

decrease/increase in delay claims as well as the percentage decrease/increase in the associated cost for the various delay causes. It is worth mentioning that the attained percentages were in good correlation to the ones obtained from the survey questionnaire. Thus, they were considered important benchmarks to be referred to for future similar incidents.

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