

قال تعالى :

بسم الله الرحمن الرحيم

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## DEDICATION

To each of the following in the presence of God and His Messenger.

To the big heart my dear father ....who taught me how to hold a pen, and how to notify words without remorse.., my mother dear..

To those who have demonstrated to me what is the most beautiful in life ,my brothers and my sisters . finally to any gifts from the sky .

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*First of all gives thanks to Allah*

*And a special thanks to supervisor*

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## **Abstract**

Building Information Modeling “BIM” is has the potential to create a single model that offers visualization, clash detection, construction phases, and materials and testing together . Building Information Modeling (BIM) is the process and practice of virtual design and construction throughout its lifecycle.

The research problem emphasizes the lack of the Sudanese construction industry that presented in the non use of technology at different phases of the project and absence of awareness of a lot of architects, civilians and stakeholders of construction industry about basic knowledge's of these programs and techniques, uses, and also the lack of equipment and poor technology in Sudan and the lack of qualified and competent training and teaching and benefits of it.

This research conducted through literature review identified the uses of Building Information Modeling for preconstruction, construction and post construction phases. the uses and benefits of BIM in the construction also conducted through the questionnaire and data analysis by (spss) programming then results .

During the course of this project, utilization of BIM and its benefits were realized. This indicated that the construction industry is indefinitely moving forward with BIM concept and BIM tools. The BIM is starting to become a common practice in the construction industry.

## المستخلص

نمذجة معلومات البناء هو القدرة علي خلق نموذج واحد للمبنى يقدم تصور لجميع مراحل البناء وأيضا المواد واختباراتها معا وأيضا هو عملية وممارسة التصميم الافتراضي في جميع مراحل البناء مع عدم التعارض بينها .

تتمثل مشكلة البحث في تأخر صناعة التشييد في السودان وعدم إستخدام التكنولوجيا في كثير من مراحل البناء وغياب وعي الكثير من المهندسين (المعماريين ،المدنيين ،وجميع المشاركين في صناعة التشييد ) وعدم إلمامهم بهذه البرامج وتطبيقها وتقنياتها واستخداماتها ، وأيضا تأخر المعدات وفقر التكنولوجيا وعدم وجود مؤهلين أكفاء وتدريبهم علي هذه البرامج وتعريفهم بفوائدها .

اجري هذا البحث من خلال الإطار النظري الذي حدد استخدامات نمذجة معلومات البناء في مراحلها المختلفة (قبل البناء- مرحلة البناء -بعد البناء) ، وأيضا اجري من خلال الإستبيان ومن ثم تحليل البيانات ثم النتائج .

خلال هذا المشروع تم التحقق من فوائد إستخدام نمذجة معلومات البناء في السودان وهذا يشير إلى إن صناعة التشييد أصبحت تتجه نحو مفهوم نمذجة معلومات البناء ووسائلها وهي بداية لتصبح نمذجة معلومات البناء ممارسة شائعة في صناعة التشييد .