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Evaluating the Need to Recognize and Measure the Reduction of Duplications in the Hospital Spaces Reform Projects using Building Information Modeling

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ABSTRACT:

Having so many old and burnout hospitals in third world countries is one of the major problems in the health sector. This issue besides low per capital hospital beds has led to many problems in the health department. In big cities, the possibility to provide land for the construction of alternative hospitals is very costly and non-economic and even impossible. Considering the complexities of building a new hospital, the only solution is making reforms in the hospitals through renovation or rebuilding the project. Moreover, increased general inflation and currency fluctuations in third world countries make most hospitals and medical centres into trouble, which this issue results in increased medical costs. Thus, cost savings in hospitals have a significant impact on their workflow and consequently patient satisfaction in terms of quality of services. Lack of proper implementation of hospital spaces reform projects has challenged realization of these savings. Building Information Modelling (BIM) is revolutionizing how to design and implement buildings. Moreover, it is not just a 3D tool in CAD, but it is a kind of database, which makes possible providing a wide range of information about features and relations among various sections of a building. This study aims to evaluate the need to recognize and measure the reduction of duplications in the hospital spaces reform projects using BIM, in order to make significant savings in waste of hospitals' resources. In-depth literature review method is applied to collect proper data aiming to introduce BIM as a tool to reduce costs of hospitals' reforms. This study helps project stakeholders in the field of health infrastructure to better understand the importance of BIM application to prevent various financial wastes in the projects and fulfil their decisions with better recognition.

Key words: Duplication; Spaces reform; Hospital construction; Building Information Modelling, BIM.

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1- Introduction

Hospital is an institute of medicine, which serves using diagnostic, health and medical, training, and research facilities for treatment and hospitalization. In fact, it is the most important service provider unit of each country and has at least 32 beds [1]. Currently, hospitals act in a competitive environment, which the quality of their services is improving. Of course no hospital can provide the best possible services in different areas of medicine; therefore, it should find ways to be able to offer a different strategy from other similar medical centres. According to the report of the Office of Physical Resources of the Ministry of Health, the cost estimation for reconstruction and repairs of old hospitals in Tehran is 120 percent. The process of positioning helps the centre to maximize its success. In order to achieve this superior position, it is required to identify the treatment market and know what our clients desire [2].

Nowadays, many hospitals old are and burnout in third world countries. It is one of the major problems in the health sector. This issue besides low per capital hospital beds has led to many problems in the health department. In big cities, the possibility to provide land for the construction of alternative hospitals is very

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