Hospital Enterprise architecture framework (Study of Iranian University Hospital Organization)

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Highlights:

- The aim of this paper is presenting an Enterprise architecture framework for the hospital.
- Using two dimensions of implementation and having appropriate characteristics, the best Frameworks were chosen among 17 frameworks.
- In the next step, TOGAF was chosen in terms of having appropriate characteristics and ability to be implemented among reference formats, using AHP method.
- Then an enterprise architecture framework was designed with a format of a conceptual model having for inputs and for infrastructural layers.
- The results showed during customization of TOGAF for Iran, that among those 145 parts, 111 parts were chosen and certified to be used in the hospital.
- This new model could be used to be performed in other Iranian hospitals.

Abstract

Backgrounds: Nowadays developing smart and fast services for patients and transforming hospitals to modern hospitals is considered a necessity. Living in the world inundated with information systems, designing services based on information technology entails a suitable architecture framework.

Objectives: This paper aims to present a localized enterprise architecture framework for the Iranian university hospital.

Methods and results: Using two dimensions of implementation and having appropriate characteristics, the best 17 enterprises frameworks were chosen. As part of this effort, five criteria were selected according to experts’ inputs. According to these criteria, five frameworks which had the highest rank were chosen. Then 44 general characteristics were extracted from the existing 17 frameworks after careful studying. Then a questionnaire was written accordingly to distinguish the necessity of those characteristics using expert’s opinions and Delphi method. The result showed eight important criteria. In the next step, using AHP method, TOGAF was chosen regarding having appropriate characteristics and the ability to be implemented among reference formats. In the next step, enterprise architecture framework was designed by TOGAF in a conceptual model and its layers. For determining architecture framework parts, a questionnaire with 145 questions was written based on literature review and expert’s opinions. The results showed during localization of TOGAF for Iran, 111 of 145 parts were chosen and certified to be used in the hospital.

Conclusion: The results showed that TOGAF could be suitable for use in the hospital. So, a localized Hospital Enterprise Architecture Modelling is developed by customizing TOGAF for an Iranian hospital at eight levels and 11 parts. This new model could be used to be performed in other Iranian hospitals.
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