Factors affecting the user’s adoption of the C.P.O.E system in a tertiary care hospital

By Thamer M. Al-Edresees. MBBS. Student in Master of Health Informatics Program, KSUHS, H.J department.
Supervised by Dr Basema Saddik.PH.D.

Introduction/Background

The CPOE was implemented successfully in KFSSH & RS the aim of this study was to find out which of the three factors (user training, post-implantation support, perception of usefulness) contributed the most to the success of the CPOE implementation.

C.P.O.E (Computerized Provider Order Entry) is a very important tool to improve the quality of care through providing better access to clinical information and improved disease management and decision making. But it is also difficult to implement (1).

In a study analyzing case studies of Clinical information system implementation; residents who were using the system asked for changes (such as changing in the system. The hospital administration during the Post-implementation applied the changes to the system and the project was successful (2).

The Level of education and previous experience with similar technology has been found to influence perceived ease of use which affects acceptance (3).

Nurse training was found to be a very critical factor that contributed to the CPOE successful implementation.(4).

Methodology

The study design

The study was an exploratory study with a cross-sectional design.

The Variables

1. The dependent variable : the user adoption of the CPOE and is defined as: the user acceptance and proper use of the CPOE system.
2. The independent variables: the user training, the post implementation support and the perceived usefulness of the system.

The study tool

A questionnaire was used to collect the data. It contained 11 questions covering all the variables with 2 more questions about gender and years of experience in the field.

Sample selection

After the study was approved by the medical director an Email was distributed by the MCI (medical and clinical informatics) department to all physicians in KFSSH-approximately 1000 questionnaires.

Validity issues

Factors which may affect the internal validity of this study are:
1. Individual differences in the medical experience.
2. Personal experiences in using the CPOE whether positive or negative.
3. Whether or not the user is interested in technology especially in clinical practice.

The study results can be generalized on tertiary care hospitals that are within the CPOE implementation stage and specially in the Kingdom.

Data analysis

The data were analyzed using the SPSS (statistical package for social sciences) computer software. Descriptive statistical tests were used to analyze the data. The inferential statistical Test Phi-coefficient was used to find out which of the three independent factors was the most influential in the CPOE adoption.

Results

a. The study focused on three factors that may influence the user’s acceptance of the system: the training, the post-go-live support, and whether the users perceived the system to be useful or not.

b. All three factors were found to have a positive influence on the system adoption.

c. The factor (perception of usefulness) was found to be the most influential on the users' adoption among the tested factors.

Chart 1: The mean score for each question.

Chart 2: Compares each of three factors association with the users adoption using the Phi-coefficient test.

Contact me through E-mail : Aledrese023@ksau-hs.edu.sa

Conclusion

1. This study focused on three factors that may influence the user’s acceptance of the system: the training, the post-go-live support, and whether the users perceived the system to be useful or not.
2. All three factors were found to have a positive influence on the system adoption.
3. The factor (perception of usefulness) was found to be the most influential on the user's adoption among the tested factors.

References


The next step:

This study will be repeated with the following adjustments:

- Using a larger sample size.
- Expanding the questionnaire section evaluating the post implantation support.
- Adding a qualitative method (one-to-one) interview to get a better understanding of the users’ opinion.

There is only one boss: the customer. And he can fire everybody in the company, from the chairman on down, simply by spending his money somewhere else.” - Sam Walton. Founder of Wal-Mart.