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Service Quality: A Main Determinant Factor for Health Information System Success in Low-resource Settings

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Abstract

With the increasing implementation of different health information systems in developing countries, there is a growing need to measure the main determinants of their success. The results of this evaluation study on the determinants of HIS success in five low resource setting hospitals show that service quality is the main determinant factor for information system success in those kind of settings.

Keywords:

Service quality, Low-resource settings, IS success, Evaluation

Introduction

Information system (IS) success measurement is a topic of substantial research and debate. A number of researchers have derived various models to explain what makes IS successful and how to measure it [1, 2].

Among them, the Delone and Maclean Model (D&M) is regarded as the most used and appropriate way to measure IS success by many researchers [1]. The basic dimensions in this model are: system quality, information quality, service quality, system use, user satisfaction and net benefit. The model assumes that those constructs are interrelated and interdependent. Among those factors, user satisfaction is regarded as a primary determinant to measure IS success [3].

With the increasing implementation of health IS in developing countries, it is necessary to identify the main determinant factors as an input for policy making and priority setting. Given that in those settings there is usually limited infrastructure available, it is necessary to assess the quality of internal and external service support for proper use of the system. In this paper our objective is to assess the effect of service quality on user satisfation and hence on IS success.

Methods

Service quality from D&M is operationalized as " the quality of the infrastructure and IT desk support in the hospitals". To measure this, we developed a questionnaire based on the validated five dimensions of SERVQUAL [4]. Additionally, we added setting specific questions like power interruption.

The data collection was part of a hospital IS evaluation study among health profesionals in five public hospitals in Ethiopia. The data collection was conducted from January to February, 2014 .

Results

Out of the 422 participants in this study, 406 (96%) completed the questionnaire. The mean age of the participants was 34 years (±8.5). 217 (53.2%) were males and the majority of the participants were nurses 176 (43.3%), followed by physicians 83 (20.4%) and HMIS staff 74 (18.2%). 190 (61%) of the health professionals reported overall dissatisfaction with the EMR (Median=4, IQR=1) on a five-level Likert scale. Physicians were more dissatisfied (Median=5, IQR=1) as compared to nurses (Median=4, IQR=1) and HMIS staffs (Median=2, IQR=1).

The respondents indicated disagreement with service quality of the implemented system with an overall median score in the range of "Disagree" (Median=4.5 IQR=1.5). The logistic regression shows a strong correlation between service quality and satisfaction - those profesionasl who belive the service quality is good are eight times (AOR=8.23 95% CI (3.23-17.01)) more likely to use the system than the others. The association with system quality was two times (AOR=2.2 95% CI (1.34-3.09)) and with information quality was also aproximately two times (AOR=1.94 95% CI (1.12-3.23)).

Among the factors that affect service quality, 222 (72%) think that the IT support staff do not understand their needs, 191 (62%) believe that the initial training was not adequate and 227 (73%) were also unhappy with the frequent power interruption in the study hospitals.

Conclusion

The results of this study show that service quality has a strong correlation with user satisfaction, hence to IS success in low-resource settings. Therefore, system implementation efforts in those settings should focus on improving the service quality such as power infrastructure, IT support and trainings. Further study on the interrelationship between D&M constructs and HIS success in those settings is in progress.

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