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Getting Strategic Advantage by Measuring Resistance Developed against E-Prescription in Turkey

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Abstract

To get strategic advantage countrywide and improve the control over medicines, it was decided to develop an e-prescription system by gathering all users of prescription such as doctors, governments, and pharmacies in the same platform on 01 July 2012. One of the main aims of this initiative is to prevent frauds. When e-prescription was first started in Turkey, there was an aggressive resistance against it. It was decided to measure resistance developed over time by a survey and find ways to decrease that resistance. For that purpose, 370 users are survey in Istanbul, Kayseri and Erzurum cities in 2013. Moreover, some open questions are asked to learn real reasons behind resistance from end users and to develop some suggestions to improve the adoption of e-prescription. It was found that there was a big resistance at the beginning and this resistance has decreased over time. Kayseri city showed the lowest resistance in all months. Users have stated that there was not an extensive education on how to use it and that is why there was a huge resistance at the beginning. Outages have been seen one of the greatest reasons behind that resistance. Security and privacy of patients records have not been seen a problem in future by users.

1. Introduction

In turkey, healthcare industry is in a changing phase. The healthcare is mainly governed by governments. In last 50 years, there has been a great increase in private hospitals. Lack of coordination among different types of hospitals (university, private and public hospitals) has been a very big problem technologically and structurally. Transferring patients from one hospital to another one is still a big obstacle preventing improving healthcare in Turkey. One of the best solutions is the usage of effective integrated Information System (IS) in all hospitals. Payments are partly paid by government for patients in private hospitals. The quality level is higher in private hospitals but they are very expensive for low and middle class people. Thus, they mainly prefer government hospitals. The family doctors have recorded their patients and followed them since few years. The usage of electronic prescription, online appointment, new machines for treatments, new technological treatments methods, new innovations in healthcare industry etc. increases

the technology usage in hospitals. There was a strong resistance from some users against e-prescription at the beginning. This article is aimed to analyze the degree of resistance over months and try to explain reasons behind the resistance. The sample content is doctors in all hospitals, and pharmacy shops staff.

Deploying user requirements to meet performance objectives is a major factor for implementing and changing existing Healthcare Information Technology (HIT). User dissatisfactions cause to low performance and may result in high patience anger. Technological, social and individual factors are not apart from each other and needed to be analyzed together. One of the main aims of this study is to see the dimension of resistance according to age, experience, sex and willingness. Resistance is also categorized differently over time. It is known that after adoption, the resistance is to be low but initial resistances can be strong to cancel or redeploy the system. 92% of health prescriptions are managed by that system and it will be easier to control the stocks and used medicines by patients. Illegal prescription was a big problem in medicine sector and it was difficult to catch excess writing of prescriptions. With this program, the control is much easier and it brings great economical benefits and strategically advantage. In urgent conditions or disruptions, the paper based prescription can still be used by doctors. Some patients have problems of not getting medicines while the program does not work or when there are some connection problems.

2. Literature Review

Data mining in healthcare can help managers to make strategic decisions by sorting and estimating future trends. Intuitive decisions may not be persuasive without real data and data mining can increase the efficiency of hospitals by analyzing huge data records. (Goksen et al., 2011) With e-prescription, it is possible to sort and update data and get results from analyzing for strategic purposes. Most consumed medicines and reasons of consumption can be explained. Moreover, peak times of medicines usages can be found by seasonality analysis to control outbreaks. Furthermore, frauds can be easily found by sorting patients' data. Before, even the patients did not get an operation; the operation to that patient could be prescript for medicines.

To increase efficiency in healthcare, HITs are taking great attention of more people each day. Healthcare diagnosis, symptoms, causes, healthcare target, recordings and measurements are main fields of HIT. (Pai & Huang, 2011) Fewer medication errors, increased financial gain, improved quality of care, improved performance, better diagnostic accuracy and safety can contribute to the quality and safety of patient care while satisfying the users. During implementation process, user friendly, flexible and innovative design may be critical in determining the success or failure of implementation new Information Technology (IT) and organizational factors. (Lapointe & Rivard, 2006) Increasing investments in Healthcare Information Technology (HIT) is critical for success of projects. Thus, problems and challenges in implementation of HIT are to be understood. Many projects are faced major challenges and resistances and cannot be implemented successfully due to not knowing end users expectations and system requirements. Failures result in high costs and dissatisfaction. Implementation challenges can be minimized by analyzing healthcare systems. Identifying the most significant barriers to transform healthcare is to be determined in order to decrease risks and failures. User needs and their relationships with HIT are prior factors needed to be assessed by management before implementation. (Nancy et al.,2008) It was found that doctors use electronic medical records to check patient's data which is less than half of tasks of the system and many tasks supported by system are not used since they still prefer traditional ways of paper writing. (Laerum et al., 2001) Patient Care Information Systems (PCISs) are very important for the right treatment of patients by reducing errors. (Ash et al., 2004) Underuse, resistance, workarounds and overrides, sabotage due to political or economical reasons, and abandonment affect the success of HIT. (Holden& Karsh, 2010) In this study, willingly underuse and resistance were mainly due to preferring old way of paper based system instead of e-prescription and some users did not like changes done by current party on government.

Decreasing the resistance of physicians is a success parameter of clinical researches. Factors that drive physicians are important for the success of HIT. If the management or governments force physicians to use the HIT, it may not be adopted by them. Thus, the management needs to learn the intention of physicians. There are other models of physicians including behavioural parts. (Hung et al., 2012) The success of IT depends on the resistance done against adoption by healthcare staff. It was seen that the resistance against new system increase during implementation phase over time even there had been a support and eagerness to have new technology by staff. The main reasons of resistance are that adoption needs time for new learning, and changes. In different hospitals, there is a different level