Chapter 4
Healthcare Security Assessment in the Big Data Era: Lessons From Turkey

Ionica Oncioiu
Titu Maiorescu University, Romania

Oana Claudia Ionescu
Titu Maiorescu University, Romania

ABSTRACT

By its nature, the improvement of the individual’s health is a service that involves a rigorous sharing of data in real time. Integrating innovative advances in technologies into the healthcare system by organizations from Turkey is a challenge, an approach to the economic and social boundary, and an attempt to balance consumer-oriented actions. This chapter aims to contribute to the decrease of the shortcomings that exist in the healthcare security assessment by focusing on data mining for public institutions and organizations in Turkey.

INTRODUCTION

The transition from the industrial society to the information society, technologically-oriented developments also contributed to the increase of the importance of knowledge by accelerating the production, storage, processing and sharing of the data (Frese & Fay, 2001). The rapid progress in information technology has brought many changes, from the daily life of people to the work processes of public and private sector organizations, from the provision of public services such as health and education to the emergence of new areas of expertise and professions (Pettigrew, Woodman & Cameron, 2001).

The use of information in administrative processes, adaptation to information and communication technologies is seen as an element that provides comparative advantage of competition among countries as well as between countries (Mikalef & Pateli, 2017). For this reason, investments for organizations and for information and communication technologies for countries have become a strategic priority (Grimson, Grimson & Hasselbring, 2000).

DOI: 10.4018/978-1-5225-8455-1.ch004
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Today, traditional hardware and software it is now possible to store, process, share and analyze large volumes of data, which are costly to be stored and analyzed by their solutions, thanks to developing information technologies, hardware and software solutions (Şener & Yiğit, 2017). In the 1990s, states and public organizations changed the procedures and procedures, using public facilities and facilities, as well as traditional means, introduced public goods and services, developed and implemented public policies (Ibbs & Kwak, 2000).

At the same time, data mining is a relatively new phenomenon for governments and the public sector, with an advanced implementation network in sectors such as banking, marketing, information, telecommunications and healthcare (Ericksen & Dyer, 2005).

The process of adaptation of the healthcare security assessment to information technology, starting with the state of affairs, now faces new challenges in Turkey such as social media and Web 2.0, open source software, large data, machine learning and open data (Yiğit, 2017).

Many field data mining applications are often found, such as risk analysis and irregularity detection, customer acquisition, credit card fraud detection, customer loss determination, fraud detection, line density estimates, medical diagnosis and appropriate treatment processes (Low & Chen, 2012). The large amount of data and data mining to government programs in Turkey, are included in development plans and policy documents such as the top national action plans (Bolman & Deal, 1999).

It is understood that this area is very dynamic and evolving. Nevertheless, it seems that public services and policies are limited to specific areas such as health. The first question that needs to be answered is “What should the purpose of health policy be?” It is not enough to define the goal as simply “providing each patient with treatment”. Because protecting healthy people from diseases and accidents is as important and necessary as being treated. For this reason, this chapter aims to contribute to the decrease shortcomings that exist in the healthcare security assessment by focusing on data mining for public institutions and organizations in Turkey.

In this context, the objective of government policy in Turkey, development plans and action plans as senior policy papers with the strategic plans of the ministries big analyzed using content analysis method data and data mining on public policies and services. Thus, examples of good practice developed especially in the ministries have been identified.

BACKGROUND

The presentation of public services and the decision to implement public policies have been reshaped since the 1980s with the wave of administrative reform (Ozcan, 2008).

As a result of adopting the private sector in the organizational structure and processes, a similar relation is established between the public organizations and the citizen with the market mechanisms and the innovative service methods are started to be applied. Living change accounted for public administrators and to increase public organizations’ productivity.

At the same time, the provision of organizational decentralization has led public administrators to be held responsible for their performance targets and the restructuring of public organizations (Narci, Ozcan, Sahin, Tarcan & Narci, 2015).

Professional governance, open performance standards and criteria in the public sector, focus on control of output, recruitment, application of private sector management techniques, productivity and