Chapter IX
Data Mining as Part of Intelligence-Led Policing in the Finnish Police

Arla Juntunen
University of Helsinki, Finland

ABSTRACT

The field of knowledge management has emerged in response to organizational needs to capture and manage what they know. This chapter discusses how a public sector organization made an effort to enhance their collaborative processes and organizational knowledge base in a specific functional area and how they implemented KM-tools to improve knowledge and information sharing and transferal both within the organization and between partners. The main expectations for the information management included the specific knowledge of its own area as well as core competencies created and systematically developed around its own areas of expertise. The implementation of KM-tools in the crime analysis function as part of intelligence-led policing assisted in preventing more crimes and creating safer communities. Decision-making in the police changed gradually from just analyzing and following past events to predicting and preventing crimes. The use and recognition of the benefits of KM-tools also facilitated the development of continuing learning and education in all the levels and in all the fields and locations of the organization. This chapter aims to promote knowledge management and KM-tools usage in government and to identify the challenges and benefits gained by an implementation of analytical solutions. It describes the managerial and organizational implications of the usage of analytical solutions and the effects on political decision-making and government programs.

INTRODUCTION

This chapter introduces data mining in a criminal investigation context as part of intelligence-led policing strategies and discusses its political, managerial and societal implications. This chapter depicts the issues and challenges of the adoption, implementation, social and political outcomes of various data mining analysis techniques, and how these techniques are used in analyzing the different operations of the daily police work, and discusses the increased efficiency and productivity in the Finnish police organization. In general, data mining can provide value to different governmental and police operations by extracting useful information out of vast amounts of collected data. In addition, data mining can be predictive and uncover hidden patterns that the police can strategically use to reduce costs, detect fraud and reveal different criminal activities. Data mining tools predict future trends and behaviors, allowing different organizational units to make proactive, knowledge-driven decisions. Data mining analysis moves beyond the analyses of past events provided by retrospective tools typical of decision support systems. The expression "Data Mining" can refer to the whole process of knowledge discovery and sometimes to the methods that used in the knowledge discovery phase. In this chapter, d***ata mining can be defined as "the application of database technology and techniques — such as statistical analysis and modeling — to uncover hidden patterns and subtle relationships in data and to infer rules that allow for the prediction of future results."*** as defined by U.S. General Accounting Office (GAO; 2004). The concept of intelligence-led policing in this chapter refers to "*the application of criminal intelligence analysis as an objective decision-making tool in order to facilitate crime reduction and prevention through effective policing strategies and external partnership projects drawn from an evidential base*." (Ratcliffe, 2003).

Moreover, the recent increasing interest in crime analysis and studies of crimes' societal implications as part of internal security started in 2003 in Finland. Finland's Prime Minister Matti Vanhanen's Government decided in its 2003 Government Program to start preparations for a program concerning internal security. It was deemed necessary to start a multi-organizational development plan that would extend over a period of several years in order to ensure long-term decision-making and development in this area. When adopting the Government Program on the 24th June 2003, the Government's idea was to increase public safety and security by reducing drug-related, violent and financial crimes and to improve the citizen's safety in everyday life situations. Crime prevention and investigation were seen as important in enhancing internal security. Fear of crime or perceptions of insecurity are not a simple phenomenon (Bilsky & Wetzels, 1997) but a multi-element issue that has been divided into fear, anxiety, vulnerability, risk assessment, concerns and perceptions of safety and insecurity (Ferraro & LaGrange, 1987; Hollway & Jefferson, 2000; Mawby et al., 2000). Therefore, this goal of increasing public safety and security required new decision support tools, knowledge management practices within governmental agencies and inter- and intra-organizational knowledge transfer and collaborative networks with the police, customs and boarder control.

Furthermore, it is claimed that Finland is one of the safest countries in Europe. The most significant exception is the amount of violent crime. In fact, the number of violent offences, for example homicide, is the largest in Western Europe in relation to the population. Another important exception is the number of home and leisure accidents, which is considerably higher than in the other Nordic countries. To improve internal security it is necessary to reduce the number of homicides, the amount of violent crime in general, as well as the number of accidents, particularly home and leisure accidents. It is also vital to