Chapter 114
Social Aid Fraud Detection System and Poverty Map Model Suggestion Based on Data Mining for Social Risk Mitigation

Ali Serhan Koyuncugil
Capital Markets Board of Turkey, Turkey

Nermin Ozgulbas
Baskent University, Turkey

ABSTRACT

After last global financial crisis, one of the most important concerns of the governments became unemployment. Higher unemployment rates haves been forcing governments to develop some policies. Some of these policies has been included financial policies while some of them included social policies. One of the most important concerns of social policies is social risk mitigation and fight against poverty and social aids as its extensions. In general, measurement of social events have been mostly based on subjective statements. More specifically, targeting mechanisms have been using for determination of potential social aid owners. Most popular targeting mechanisms are subjective ones as well. In this chapter, an objective targeting mechanism model and a fraud detection system model have been developed via data mining for social aids as an identifier of poverty levels which includes early warning signals for inappropriate applications. Then, these models have been used for development of a poverty map. Developed new targeting mechanism which has been based on rating approach will be an alternative to Means Test and Proxy Means Test. In addition, social aid fraud detection system will be updated automatic with Intelligent System property and the poverty map computation approach can be used for absence of detailed data. Furthermore, Millenium Development Goals, Targeting Mechanisms, Poverty and Poverty Maps concepts have been reviewed from an analytical and objective point of view.

DOI: 10.4018/978-1-4666-2455-9.ch114

INTRODUCTION

One of the most important elements of social life is solidarity under risky situations. Social Security System presents solidarity in instituional mean in country level. Social security may be accept as system, organization, necessity, solidarity and as service tool of the government when individuals face to danger. In some countries, social security has a wider mean than the others. According to ILO, actual norms of social security covers support for economical and social protection, health protection, family life with kids arising from income loss because of disease, motherhood, working force loss, unemployment, disability and old age by public programs. Elements of social security can be count as social solidarity, neediness, public programs, obligations and participation. Therefore, social security can be define as a solidarity organization based on obligation of participation which against dangers faced by the individuals of society via public programs.

First bases of social security institutions has been established in 1880. First compulsory insurance about social security dangers has been established in German on 1883 by government. Then the other insurance types established conseqeuntly such as

- insurance on disease has been started in 1883,
- insurance on occupational accidents has been started in 1884,
- insurance on disability and older age has been started in 1889.

In other countries, establishment and improvement of the insurance almost in the same years:

- In Austria,
  - Insurance on occupational accidents has been started in 1887,
  - Insurance on disease has been established in 1888. Social Security and related legislations have been started
- In Hungary in 1891,
- In Norway and France in 1894,
- In Finland in 1895,
- In Italy in 1898,
- In Spain in 1900,
- In Japan and in England in 1903,
- In Latin America, USA and Canada in 1930.

Second World War has been a milestone about Social Security. Following years after war have been became the beginning point of Social Security Gold Age. In 1952, coverage and the norms of the social security have been defined with aggreement number 102 entitled 'Minimum Norms of Social Security' by ILO. Today, all developed countries have been applying nine insurance activities included by aggrement number 102. Those nine insurance acitivities are

- occupational accidents;
- occupational diseases;
- disease;
- motherhood;
- unemployment;
- family payments;
- old age;
- death;
- disability.

In developing countries unemployment and family payments haven't been appllying widely but the others. These advancements have been the first steps of the providing establihment and organizing of social security system. Re sharing of income has been foreseen with solidarity and cooperation principles.

One of the main components of social security system is social services. Social services are all systematic and regular activities and programs which have properties such as protective, proac-