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Modelling of fire managers’ decision making method

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Abstract
During fighting against forest fires the situation can change quickly, thus, managers must also be ready to change the strategy and tactic. Firefighting managers have a typical profession, during which – depending on the time – making both analytical and naturalistic decision. Trainings usually focus on traditional – analytical based – decision making, which takes time, however, in many cases there is not enough time to do that. Therefore managers make many times recognition-primed decisions as a symbol of naturalistic decision-making. The first part of this article gives a thorough review of the topic. The second shows a simple and a complex model, created by the author. Method: the author used different tools and methods to achieve his goals; one of them was the study of the relevant literature, the other one was his own experience as a firefighting manager. Other results come from two surveys that are referred to; one of them was an essay analysis, the second one was a word association test, specially created for this research. Results and discussion: the author created a simple and a complex model for firefighting managers making decisions, taking into account time pressure, the limited capability of processing information and also a mechanism complementing the recognition-primed decision.

Keywords: decision making, fire managers, recognition primed decision, model for making decisions in emergencies

1. Introduction

The background of recognition of a special decision-making mechanism in the focus of this paper was given that, in some cases, no sufficient time is available, necessary for classic decision-making. Therefore, strategists sought to design and plan the details of military operations in advance, just as today, however, their proper implementation, the application of different decision support instruments in live situations, designed for optimal decisions, failed many times in spite of these. Decisions made in reality, e.g. fighting against forest fire are often not harmonized, could not be harmonized, considering the circumstances, with the pre-formulated strategies, mostly because there was not enough time needed to achieve them.
In the paper, author illustrates the limits of the possibilities of analytical decision-making, presents the general operating mechanism of recognition-primed decision-making, elaborates on its special model relevant to firefighting managers, as well as explores and systemizes the factors that facilitate (catalyze) the processes.

2. Characteristic circumstances of emergency interventions

An important element of the activities of emergency responders is that they cannot or only to a very limited extent can modify the terms of the task, improve them as desired. Despite the differences of environment, indications of the complexity of the situation, the possibility of the radical change in the given situation, uncertainty and ambiguity of the information available can be recognized and well identified. During fighting against forest fire the weather condition can change radically – for this, a typical example is the change of wind direction –, the accessible resources, because of the intensive plum convection can be new hot spots also behind the existing fire fronts, firefighters can be injured seriously or can fallen in trap requiring help immediately.