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Municipality Management and Model of Evaluation and Selection of the Expert Group Members for Smart City Transportation and Mobility including UAV/UAS

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Abstract

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Abstract:

The urgency of the work lies in the development of a fuzzy model for quantifying experts for smart city transportation and mobility, for ranking them and selecting an expert group, which integrates different models of competence of experts and reveals the subjectivity of the answers to the questions in their evaluation. The development of such a model will allow to increase the degree of validity of the decision making of the choice of experts (employees, specialists) municipality, which are best suited for the competences, qualities or psychophysiological peculiarities for the effective fulfillment of the task for smart city transportation and mobility. As a result, for the first time, a seven-step general algorithm for the expert group, for smart city transportation and mobility, assessment and selection model has been developed that integrates different expert competence models and can be applied to different areas of specialist selection. A structural framework for the evaluation and ranking of the expert group was also proposed for the first time, as well as examples of constructing membership functions for the evaluation questionnaire. Experimentally tested the general algorithm of fuzzy model of evaluation on the test example of the choice of the head of expert group among 5 experts on 3 models of competences (model of self-esteem, model of special abilities and skills, model of psychophysiological qualities of personality).

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I. Introduction

More than half of the world's population lives in cities and there is a steady increase in urban population. At the same time, the city managers are tasked with implementing the concept of smart city. This became necessary both to solve the emerging global problems, such as climate change, population growth and aging, and local - infrastructure, communal and transport problems [1]. The smart city concept implies smart: energy, transport, mobility, ecology, healthcare, innovative infrastructure, management [2]. Smart City Transport is based on an intelligent transport system, which means integrating operational management of all modes of transport and the ability to respond to real-time events. The transportation system is an integral part of the whole smart city system. In general, the main goal of a smart city is aimed at the high quality of life of the city's citizens. Therefore, the new paradigm of social development is to strengthen the role of municipalities in ensuring the quality and standard of living of the population. At the same time, models and methods of managing a smart city should change [3]. Implementation of innovative transformations in all spheres of life of city citizens should be carried out by competent specialists. Therefore, the task is to properly select a team of employees (experts) to effectively solve their tasks

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