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APPLICATION OF THE EXPERT SURVEY METHOD IN THE ASSESSMENT OF SOCIAL PHENOMENA AND PROCESSES

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Abstract: This article studies the scientific and theoretical application of the expert survey method in the assessment of social phenomena and processes. The study analyzes the essence of the expert survey, its main types, quantitative assessment tools such as the expert competence coefficient and the concordance coefficient. The possibilities of using the method in various social spheres are also considered and practical proposals are developed to increase its effectiveness.

Keywords: Processes, social, method, assessment, expert, developed, in the field, increasing efficiency.

Introduction

In modern society, the accurate assessment of social phenomena and processes has become a crucial factor determining the effectiveness of public administration, social policy, and scientific research. In the context of globalization and the increasing complexity of societal life, it has become difficult to comprehensively capture all aspects of social processes using only conventional observation or statistical methods. This situation necessitates the involvement of specialists with advanced knowledge—experts.

In Uzbekistan, various survey methods aimed at studying social processes and public opinion are widely used. Significant initiatives have also been introduced at the state level. In particular, the Presidential Decree of the Republic of Uzbekistan No. PF-5667 dated February 22, 2019, “On measures to support sociological research by the state,” plays an important role in the development of this field. This document provides for state support of sociological research, improvement of public opinion assessment systems, effective use of research results in governance processes, and the training of qualified personnel based on modern methodologies.

The relevance of this topic lies in the increasing importance of scientifically grounded assessment and forecasting of social processes in the context of large-scale reforms being implemented in Uzbekistan. The purpose of this article is to study the theoretical foundations of the expert survey method, analyze its potential in evaluating social phenomena and processes, and develop practical recommendations for its application.

Literature Review

The expert survey method occupies a distinct place in scientific literature as one of the widely used methodological approaches for assessing social phenomena and processes. The theoretical foundations of this method have been extensively developed by foreign researchers, particularly T. Saaty, who interpret expert evaluation as an essential component of empirical research. In recent years, the application of expert methods in social research has also been actively studied within the local scientific community. However, an analysis of existing literature indicates that the potential of the expert survey method for the comprehensive assessment of social processes has not yet been fully explored.

In particular, in his article "The Analytic Hierarchy Process—What It Is and How It Is Used" [2], T. Saaty emphasizes the evaluation of social phenomena and processes, stating that "the AHP is a method that can be used to establish measures in both the physical and social domains. In general, a hierarchical model of a societal problem descends from a focus (an overall objective), to criteria, further to subcriteria, which are subdivisions of the criteria, and finally to the alternatives from which a choice is to be made."

Moreover, in a blog article titled "What is Expert Survey?" published by the Egyptian Research and Training Center [3], an expert survey is defined as a research tool used by both large and small organizations to comprehensively explain the characteristics of groups. For example, it can be used to study the attitudes of a large number of customers toward a particular product or service. In addition, as a quantitative research method, expert surveys include two main types: cross-sectional surveys and longitudinal surveys.

Among local scholars, N.E. Duisenov, in his учебное пособие titled "Main Types of Expert Systems and Their Areas of Application" [4], states that "an expert system is an intellectual system designed to solve problems within a specific domain. The primary source of knowledge for expert systems is the experts of that particular field. All expert systems operate based on precise expert information obtained from a specific problem domain".

Additionally, Kazakova D.S. and Rakhimov H.K., in their article "Application of the Expert Method in Selecting Consumer Properties of Suit Fabrics" [5], note that "the quality of textile materials cannot be characterized by individual indicators alone; rather, it is defined by a set of the most important consumer properties. To optimize the nomenclature of quality indicators, the expert method, based on surveys of specialists, was selected as the most reliable approach".

Analysis and Results

During the literature review, a number of important scientific and theoretical findings were obtained regarding the theoretical foundations, types, and practical applications of the expert survey method in social research.

The study revealed that there are two main types of expert surveys.

The first is the cross-sectional survey, which is based on one-time data collection from representatives of a target group at a specific point in time and is widely used in commercial and market research.

The second is the longitudinal survey, in which data are collected repeatedly over different periods, allowing for the analysis of the dynamics of a phenomenon or process and the examination of long-term changes.

The application of the expert survey method in assessing social processes involves several stages. In the first stage, experts are selected. The expert competence coefficient is determined based on the following formula:

$$K = (K_1 + K_2) / 2 \quad (1)$$

Where:

K_1 — the coefficient of the expert's self-assessment of their level of knowledge (ranging from 0 to 1)

K_2 — the coefficient of the expert's argumentation (ranging from 0 to 1)

If $K \geq 0.7$ the expert is considered suitable for inclusion in the study.

In the second stage, the evaluations of experts are aggregated. For this purpose, the arithmetic mean formula is used:

$$\bar{X} = (X_1 + X_2 + ... + X_n) / n \quad (2)$$

Where:

$X_1, X_2, ... X_n$ — the individual evaluations of each expert

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n — the number of experts

In the third stage, the level of agreement among expert evaluations is determined by calculating the concordance coefficient:

$$W = 12S / m^2(n^3 - n) \quad (3)$$

Where:

S — the sum of squared deviations of the total ranks of each object from their mean value

m — the number of experts

n — the number of evaluated objects

If **W = 1,** there is complete agreement among the experts.

If **W = 0,** there is no agreement among the experts.

In practice, **W ≥ 0.5** is considered a satisfactory level of agreement.

According to the research findings, the expert survey method ensures a high level of reliability in assessing social processes, as it allows for the simultaneous collection and analysis of both qualitative and quantitative data. The concordance coefficient clearly reflects the degree of agreement among experts and serves to ensure the objectivity of the research results.

Table 1

Application Areas of the Expert Survey Method in the Assessment of Social Processes [7]

Field	Purpose of Application	Number of Experts (average)
Social Policy	Evaluation of program effectiveness	10–15
Education	Assessment of educational quality	7–12
Healthcare	Evaluation of service quality	8–15
Economics	Forecasting market trends	10–20
Ecology	Assessment of environmental conditions	5–10

As can be seen from the table, the expert survey method is widely applied across various fields of social processes. In particular, the number of experts is highest in the field of economics, ranging from 10 to 20 individuals, which is explained by the complexity and multifactorial nature of economic processes. The number of experts is also relatively high in the fields of social policy and healthcare, indicating that the evaluation process in these areas requires the involvement of a broad range of specialists. In contrast, the number of experts in the field of ecology is relatively lower—ranging from 5 to 10—which can be explained by the narrow specialization of experts in this domain.

Table 2

Distribution of Expert Competence Coefficients (K) [8]

K Coefficient	Interpretation	Inclusion in the Study
0.9 – 1.0	Very high	Yes
0.7 – 0.9	High	Yes
0.5 – 0.7	Moderate	Conditional
Below 0.5	Low	No

The data presented in the table indicate that the expert competence coefficient is a key criterion determining the quality of the research. Experts with a coefficient value of K ≥ 0.7

are considered suitable for full inclusion in the study, as their evaluations provide reliable results. Experts with K values between 0.5 and 0.7 may be included conditionally; however, their assessments should be treated with caution. Specialists with a competence coefficient below 0.5 are not included in the study, as their participation may negatively affect the objectivity of the results.

Conclusion and Recommendations

During this study, the role and significance of the expert survey method in assessing social phenomena and processes were comprehensively examined. The research findings indicate that the expert survey method is one of the most reliable and effective methodological approaches for evaluating social processes, as it enables the simultaneous collection and analysis of both qualitative and quantitative data. It was also determined that mathematical tools such as the expert competence coefficient and the concordance coefficient play a crucial role in ensuring the objectivity of research results. Furthermore, it was substantiated that both cross-sectional and longitudinal types of expert surveys can be successfully applied across various social fields, including social policy, education, healthcare, and economics.

Based on the results of the study, the following recommendations are proposed.

First, special attention should be paid to the selection of experts when applying the expert survey method in assessing social processes, and only specialists with a competence coefficient of **K ≥ 0.7** should be involved.

Second, in order to increase the reliability of the research, it is necessary to ensure that the concordance coefficient reaches a level of **W ≥ 0.5.**

Third, it is advisable to widely implement the expert survey method in Uzbekistan for managing social sectors and evaluating the effectiveness of government programs.

Fourth, the development and practical implementation of expert evaluation methodologies adapted to local conditions remain an important scientific and practical task.

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