

MODEL FOR IDENTIFICATION AND ANALYSIS OF PROBLEMATIC ISSUES IN THE ACTIVITIES OF OFFICIALS OF THE NATIONAL CENTER FOR ACTION AND MANAGEMENT OF EMERGENCY SITUATIONS OF THE MINISTRY OF EMERGENCY SITUATIONS

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In the Ministry of Emergency Situations of the Republic of Uzbekistan, the State System of Prevention of Emergency Situations and Actions in Such Situations (FVDT) of the Republic of Uzbekistan is entrusted with the tasks of organizing management. There are day-to-day management bodies of FVDT to control the operation of subsystems and links of FVDT, as well as to implement operational management within the existing powers.

Introduction

The Republic of Uzbekistan "On protection of population and territories from natural and man-made emergency situations" and "On civil protection", the laws of the President of the Republic of Uzbekistan "On the strategy of Actions for the further development of the Republic of Uzbekistan" No. PF-4947 of February 7, 2017 and "On measures to fundamentally increase the efficiency of the system of prevention and elimination of emergency situations" Implementation of Decree No. PF-5066 of June 1, 2017, The state system of prevention of emergency situations and action in such situations of the Republic of Uzbekistan in order to increase the readiness of forces and means to act, as well as to inform the population about the danger or occurrence of emergency situations in time and to deliver information (information) the following are defined as the main tasks of XMAT:

- To ensure the automation of the set of technological processes of collecting, processing, storing and delivering information about the danger or occurrence of emergency situations, methods of protection in the event of emergency situations and the actions of the population, informing the population about the situation that has arisen and real-time monitoring of all processes in data delivery;
- To notify the population of the republic about the threat or occurrence of emergency situations and deliver information (information);

- Management bodies, the state system of prevention of emergency situations and actions in such situations of the Republic of Uzbekistan, day-to-day management bodies, specially prepared forces and means designed and allocated (involved) for the elimination of emergency situations in the territory of the republic, the risk of emergency situations or their occurrence to notify and deliver information (information).

Identification and analysis of problematic issues in the activities of officials of the National Center for Action and Management of Emergency Situations of the Ministry of Emergency Situations is achieved by developing an appropriate model that includes 3 main components (Table 3) [1].

Table 3 - The main sections of the development of the model for identifying and analyzing problematic issues in the activities of officials of the National Center for Action and Management in Emergency Situations.

Components of the model	Decomposition of components
1. Analysis of the subject area	1.1. Determination of the field of study and analysis of the FVDT system of the Ministry of Emergency Situations
	1.2. Determining the status of existing cases on this issue. Assessing the activities of officials of the Central Control Center of the Ministry of Emergency Situations.
	1.3. Determining the existing organizational, auxiliary and functional levels of activity of FVHQ and BMM officials
2. Structural synthesis of the system of identification and analysis of problematic issues in the activities of officials	2.1 Statement of the problem
	2.2. Determination of the structure of the developed system
	2.3. Identifying the functional subsystems of the problem-solving system
3. Formulation of suggestions for applying the developed methodology	3.1. Creating a user base and database content
	3.2 Creation of data collection and processing technology
	3.3. Determining the principles of formulating queries to the database
	3.4. Identify the adopted data analysis technology and present relevant results to the leadership of the National Center for Action and Management of Emergency Situations

Identification and analysis of problematic situations in the activities of the National Center for Action and Management of Emergency Situations of the Ministry of

Emergency Situations of the Republic of Uzbekistan is carried out at three levels corresponding to the daily management bodies of the unified state system for prevention and elimination of emergency situations (FVDT) [2].

These levels have similar technical, information and software, which makes it possible to develop a unified approach and develop a universal system for different levels of FVDT.

The concept of the FVHQ and BMM system is introduced for the analysis of the subject area in order to determine the properties specific to the sections, as well as to determine the laws of operation of the FVHQ and BMM units [1].

The FVHQ and BMM system is a complex organized technical system with a number of interconnected subsystems (Fig. 9), homomorphic and different levels of FVHQ and BMM units related to the daily FVDT management bodies used as an auxiliary tool for evaluating the performance of officials. If management, department, unit, group, operational duty shift, etc. are structural divisions of FVHQ and BMM, then in the system of FVHQ and BMM, the level of units and the level of officials are separated. The operation of the FVHQ and BMM system is related to the performance of the functional tasks of the officials [1].

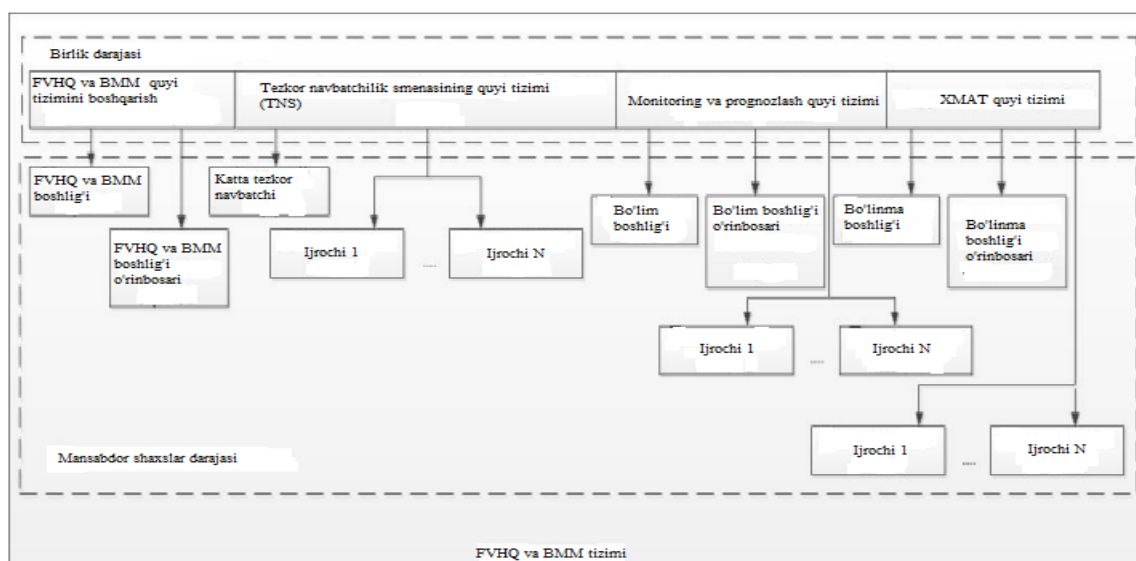
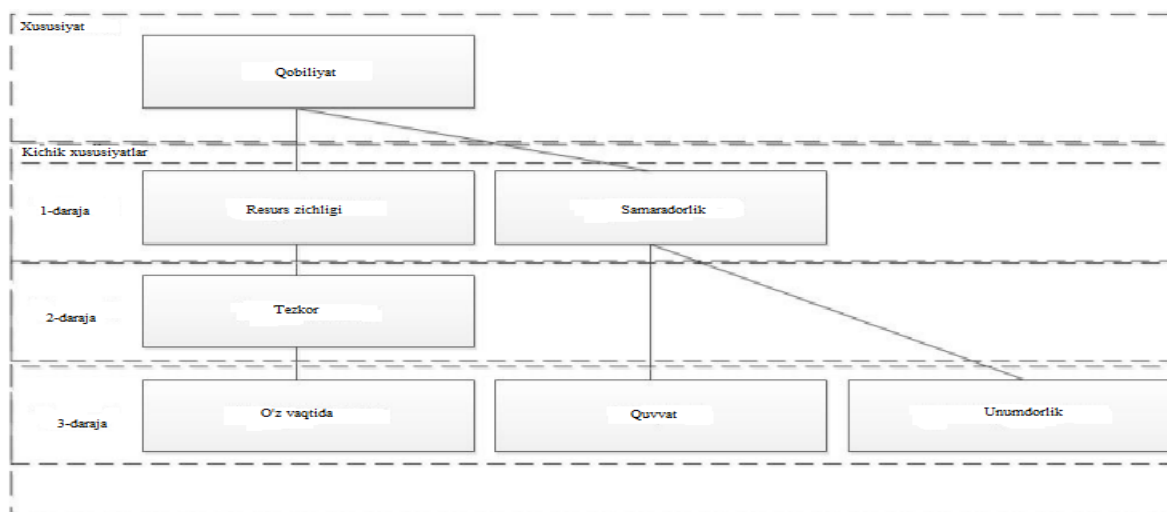


Figure 9 is the structure of the FVHQ and BMM system.

It is proposed to analyze the FVHQ and BMM system as a management system in order to determine the features corresponding to the FVHQ and BMM system and the quality indicators of the performance of the functional tasks of the officials of the Ministry of Emergency Situations of the Republic of Uzbekistan. When evaluating the quality of control systems, it is appropriate to include several levels of characteristics, arranged in order of increasing complexity [3-4]. Among the empirical levels of characteristics such as control, resistance to noise, stability, ability, self-organization,

the "ability" characteristic, which reflects the specific characteristics of the research presented in the model, is considered (Fig. 10). FVHQ and BMM system can be evaluated on this feature, it reflects the purpose and characteristic features of the activities of the officials. Capacity is a property of a system that determines the degree to which a desired result can be achieved based on available resources in a given time period. This characteristic is characterized by sub-characteristics of different levels, such as resource intensity (timeliness, speed) and efficiency (work productivity, power) [1].



Sub-property tree of the "capability" property for the FVHQ AND BMM system. According to the proposed methodology, 3 sub-characteristics of the 3rd level of the characteristic tree are selected to determine the quality indicators of the performance of official duties by the officials of the FVHQ and BMM (Fig. 10). The essence of quality indicators and level 3 sub-characteristics is presented in Table 4.

FVHQ and BMM system performance for level 3 subfeatures

Feature	Feature essence	Quality index
It's on time	Performance of functional tasks by officials of FVHQ and BMM in accordance with normative documents	Time t to complete the task does not exceed the acceptable value of the quality indicator
Power	The maximum number of tasks that an official can perform in one shift	The maximum number of tasks performed by an official in a shift
Productivity	The volume of tasks performed by an official in one shift	The number of tasks performed by an official in a shift

Determining the inconsistency between the existing and required values of the selected quality indicators of the FVHQ and BMM system allows to determine the existence of a problem [1].

Analysis of the consequences of the existence of problems (Table 5) shows the feasibility of introducing automated techniques for identifying and analyzing problematic issues in the activities of officials of the National Center for Action and Management of Emergency Situations of the Ministry of Emergency Situations [1].

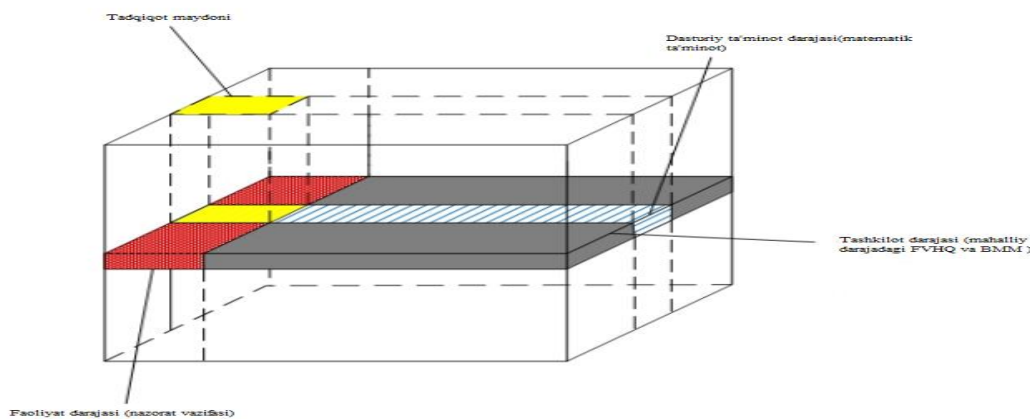


Figure 11. An example of delineating a degree and defining a field of study. Achieving the goal is achieved through a systematic methodology that allows you to clearly define problematic issues by identifying three levels of systematic presentation:

- Level of daily management bodies of FVDT (organizational level);
- Level of tasks (level of activity) solved for the benefit of management functions and tasks;
- Level of types of support for the activities of officials (level of support).

The reviewed view of the FVHQ and BMM system allows to determine the position of the problem in the model of identification and analysis of problematic issues and to determine the area of study of problematic issues (Fig. 11).

The presented research is mainly carried out at the following sub-levels:

- Republican, interregional and regional levels of organization;
- Control, planning and operational management tasks;
- Mathematical, programming and scientific support for support level.

As a result of the analysis of the subject area for the problem identification and analysis model, the following preliminary data were obtained:

- Structure of FVHQ and BMM system (Fig. 9);
- Relevant quality indicators of FVHQ and BMM system;
- Intuitively determined possible problems in the activity of FVHQ and BMM, the causes of these problems and the consequences of the existence of problems (Table 5);

- The current state of work on identifying and analyzing problematic issues in the activities of officials of the National Center for Action and Management in Emergency Situations;

- existing functional, organizational and auxiliary levels.

Required: Development of a model for identification and analysis of problematic issues in the activities of officials of the National Center for Action and Management of Emergency Situations of the Ministry of Emergency Situations.

It is possible to increase the efficiency of the daily management of FVDT by automating the process of identifying and analyzing problematic issues in the activities of the officials of the National Center for Action and Management of Emergency Situations of the Ministry of Emergency Situations, by providing information and analytical support to their activities, including the use of management tools [1-4].

In the activities of officials of the Ministry of Emergency Situations, an abstract system of identifying and analyzing problematic issues, which includes subsystems, is used to analyze problematic issues:

- Evaluation of the performance of the duties of the officials of the FVHQ and BMM;

- Identifying the problem;

- Problem analysis.

Each subsystem contains functional subsystem elements. The elements of functional subsystems correspond to the step-by-step process of identifying and analyzing problematic issues in the activities of the National Center for Action and Management of Emergency Situations of the Ministry of Emergency Situations [1-3].

The practical application of the developed model is carried out using relational databases. Databases are relational and created to store information about officials of the FVHQ and BMM, as well as information about tasks that officials solve in the course of performing their functional duties. contains information. Identification and analysis of problematic issues is the evaluation of the database on the formation of queries to the database and the performance of tasks related to the solution of certain tasks by the officials of the Ministry of Emergency Situations. The direction of further research is also

To improve the created relationship, it is suggested to take the following steps:

- Determining the scope of users from the database;

- Determining the content of subject objects to be collected and processed in the database (infographic design).

The range of users of relational databases is limited only to the heads of structural divisions of FVHQ and BMM, as well as the head of the studied FVHQ and BMM.

The structure of the database, the technology of information interaction between the users of the database and the selection of the tuple are given as an example [1-2].

Each relational relationship in the database corresponds to one object, in which the attributes of the object are entered. For each relationship, the main features are

identified that are directly relevant for identifying and analyzing problematic issues in the activities of officials of the Ministry of Emergency Situations.

With the help of relational algebra operations, database queries are made in α -language depending on the requirements of the requesting persons.

The main features of identifying and analyzing problematic issues in the activities of officials of the Ministry of Emergency Situations will be the required values of the system quality indicators related to the "task", for which the request is presented in the following form:

$$v1[SKTQQ\#] / v1 \in L\# \wedge \exists(v2 \in MSh) \wedge v1[TN\#] = v2 [TN\#] \wedge (v2[L\#] = VN\#)$$

The results of the received surveys are comparatively analyzed. When identifying and analyzing problematic issues, the existing values of the task quality indicator are evaluated and compared with the values of the required indicators (Table 7).

Table 7 – Comparison of required and actual values of indicators

No	Comparison option	Conclusion
1.	$Q_{talab\ qilinadigan} > Q_{haqiqiy}$	There is a problem and it needs to be solved
2.	$Q_{talab\ qilinadigan} = Q_{haqiqiy}$	There may be a problem
3.	$Q_{talab\ qilinadigan} < Q_{haqiqiy}$	The task is carried out qualitatively. There is no problem

$Q_{talab\ qilinadigan}$ - the required value of the quality indicator;

$Q_{haqiqiy}$ - the actual value of the quality indicator.

Identifying and analyzing problematic issues in the activities of officials of the Ministry of Emergency Situations in order to effectively evaluate the activities of the units of the Ministry of Emergency Situations, analyzing the above-mentioned proposals for applying the analysis model and identifying problematic issues in the activities of FVHQ and BMM officials The model should include the following main steps:

1. Selection of an official to be audited;
2. Analysis of tasks assigned to an official;
3. Selection of the task to be evaluated;
4. Selection of the property to be evaluated;
5. Selection of the indicator to be evaluated;
6. Formulating requests to the database;

7. Analysis of received data;

8. Presentation of the results to the management of fvhq and bmm.

The practical application of the proposed model was carried out on the example of the official ARM-5 (specialist for the analysis and preparation of rapid data on regional passports). The characteristics of "timeliness" and "performance" were evaluated. The "power" attribute is not taken into account, since it is directly related to the "performance" attribute. Based on the results of applying the methodology, the following conclusions were drawn:

1. *Time feature.* The value of deviation from the required value of the current average value of the "Document execution time" index is ___ min. (or ___%).

2. *Performance feature.* The cost of rejecting the current average value of the index "number of documents spent per unit of time" from the required value of the indicator is equal to ___ documents (or ___%).

Conclusion

Deviations in the identified characteristics have negative consequences, therefore, it is necessary to eliminate inconsistencies between the existing and required values of the quality indicators that affect the reasons, in particular: routine work of officials, problems of validity of the decisions made, automation and the lack of officials who know the basics of programming, the lack of staffing of the National Center for Action and Management of Emergency Situations.

The target criterion function for improving the efficiency of officials of the National Center for Action and Management in Emergency Situations provides for changing the indicators corresponding to the characteristics "Time" and "Productivity" (1). The increase in efficiency is achieved by reducing the indicator of "the number of developed documents" (with a decrease in the execution time) and "the time of the tasks" (with an increase in the quality of the decision).

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