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**DOI: 10.25108/2304-1730-1749.iolr.2016.46.348-366**

# Using of the method for evaluation and observance of programmes in course of organization and planning of crimes' investigation

**Abstract:** Criminalistical characteristics and process of investigation are complicated dynamic systems of various social levels, which have common integrative features.

Modeling is one of the methods of investigation of complex dynamic systems.

Method of evaluation and observance of programmes (MEOP) is an instrument of planned organization and allows modeling many features of crimes.

**Keywords:** investigation of crime; method of evaluation and observance of programmes; model; modeling; investigative planning.

Cybernetic method of assessment and observance of programme was first time tested in the end of 50$^{th}$ of 20$^{th}$ century in USA at time of construction of skyscrapers, and from that time it has successfully applied in shipbuilding, rocket production and other kinds of human activity, which are required to be done great volume of works, limiting deadlines at less admissible number of executors [7, p. 4].

A core of the method is concluded in that a basis of special computer programme according to designed model and known number of executors in a few minutes is determined the time, which is necessary to fulfill whole complex of works and other parameters and allows maneuvering both of personnel and time resources.

First time a suggestion to use in investigation of criminal methods of evaluation and observance of programmes (hereinafter, MEOP), which was named in soviet criminalistical literature as net planning and management, was said in 1966 by A.P. Syrov. He substantiated theoretically it like a new method of investigative planning

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[8, p. 41]. Later, the idea was supported by A.R. Ratinov, A.A. Gerasun, A.I. Larin and others, but their judgements had common nature [4, p. 50; 6, p. 152].

There is no common point of view about reasonability, reliability and efficiency of application of the method of evaluation and observance of programme at investigation of crimes. Number of authors states reasonability its application, not expressing his point of view (N.A. Yakubovich, I.F. Krylov) [3, p. 300]. Other ones are limited with reserved assessments (N.I. Porubov) [7, p. 5], third ones consider its using impossible or very limited in process of investigation, accenting their attention in deficiencies of the method (R.S. Belkin, A.N. Vasilyev) [1, p. 276-291; 2, p. 166-167].Positive assessment and deep analysis of the method of evaluation and observance of programmes were made by N.A. Selivanov and J.I. Suleymanov [5, p. 273].

Main argumentation against MEOP comes to the following:

- At initial stage of investigation one cannot make a list of work with necessary correctness and completeness;
- Programme does not provide new investigative actions, necessity of production of which appear in course of investigation;
- Complexity of MEOP [1, p. 283-291].

It is noted in literature that negative attitude to MEOP at investigation of crimes connected with absence of sufficient practical material and incomplete awareness of criminalists in respect of a content of the method and particularities its application in investigative practice. Experience of investigative subdivisions of MIA of Azerbaijan Republic has showed an inconsistency of objections against using of the method in investigative activity, proves its reasonability, effectiveness and perspective. This conclusion comes from the following interrelated provisions, which have been established through studying of practice and experimental way.

As it known, any crime, its criminalistical characteristic and process of investigation are the complex dynamic systems of various social levels, value and content; there is existed certain correlations between them. In most occasions they are non-liner, correlative dependences as a dynamic so statistic nature, for which statistic

laws are fair. Each of the system has common integrative features determining in its assemblage a general functional system, is characterized with certain necessity of a system's safety like an integrated organization, when environment impacts on it.

One of the methods of research of complex dynamic system is modeling, a variety of which is MEOP. Using of the modeling method in investigation of crimes positively evaluated and is assessed by number of researchers, but the models, which have offered by them, are static and are not subjected to correlation at their own right.

Programme, which considered by us, is fulfilling two functions: it serves by means of plan organization and simultaneously allows modeling many features of crimes, namely: correct dates of beginning and completion of separate investigative actions (works), their duration; reserves of timing, their correct measurement; duration of whole investigation, chain of the works (way) influencing at duration of investigation, providing an investigator with information about actual fulfillment of plan; systematically to correct the plan [9, p. 116].

As it noted, suggestions about possibilities of MEOP usage at planning of investigation were expressed earlier, but they had no practical confirmation and offered recommendations on application had contained sufficient errors. Method of MEOP usage, which was developed by us, has distinguished from all earlier described, and has many times been used in practice. Let's consider it in details.

Programming of investigation consists on the following stages: 1) making up a list of investigative actions on establishing and proving of the elements of criminal activity; 2) contribution of duties between executors; 3) designing of a model – time-table; 4) calculation of parameters of investigation's time-table in computer and analysis of the results received.

List of investigative actions on establishing and proving of the elements of criminal activity is recommended to compile with participation of all members of investigators' team after analysis of primary information and data, which received in course of production of urgent investigative actions, otherwise one needs to do the same work a twice. The same lists of investigative actions are compiled at quarterly

planning. Conditionally the list might be divided into the six main groups, corresponding to the elements of criminalistical characteristic of crime.

When criminal case is instituted on operation material, all six groups have to contain the actions concerning a concrete episode of criminal activity. If the same action is able to answer in few questions relating to various elements of criminal activity then it is included in that group, to which it has more attitude, but it is not duplicated. In dependence on results of parameters of investigation's modeling a place of the action in time-table might be changed with considering of logic link.

Volumes of third and fourth groups are in direct dependence on quantity of episodes of criminal activity. In dependence on complexity and volume of a case each group of investigative actions' list might be divided into interrelated parts [9, p. 117].

Contribution of duties between the members of group is produced the same way like at any method of investigative planning. Being marked each action in a list of an executor one may arrange centralizes, de-centralized or combined form a work of investigative group. It is necessary to note that distribution of duties is produced before and after calculation of model's parameters, which does not impact on planning.

Fulfillment of investigatory actions, which provided by a model, might be marked with different ways. It is quite conveniently to line conditional indication of done action in a model or a list, to put a sign "plus" beside it, and close to action's indicator, necessity of which is no longer relevant, to put sign "minus".

Designing of time-table is a direct connection with working out a list of investigation actions. It is recommended to use oriented to investigatory actions a form of model's designing, which is more visual and accessible for investigatory practice. MEOP is also practiced other form, when the works are marked with arrows, and events – with geometric figures. But this modeling form is presented to be certain difficulties for investigators.

Designing of model is begun from with drafting of primary geometrical figure no. 1 at the left edge of a sheet, which indicates a familiarization with received

materials and institution of criminal case. A bit of right side is a vertical row of figures with serial numbers from top to bottom, indicating initial investigative actions and organizational measures. Further, at the same order are rows of the figures with numeral indicators of forthcoming works (actions), which connected with establishing those or other circumstances, entering in proving subject. The figures - the works, which are in logic tie, are joined with arrows. In dependence on logic ties, from one the same figure of the one row the arrows might be drawn to few figures of other row, and, vice versa, the arrows from few figures of prior row might be drawn to one figure of consequent row. All this is done for few minutes in computer on special programme.

Programme of any case consists on few parts. It is explained the fact that it is practically impossible to work out at once a whole list of investigative action on a case as there in impossible to foresee their results and necessity production of new actions. Each part is ended by action on analysis of collected documents, and the latter – with working out of a bill of indictment [9, p. 118].

Knowledge and observance of the rules of model's designing allows in course of planning to foresee of necessary and required and to reject useless for fulfillment of actions' plan. So, the model has no have "dead ends", i.e. the actions, from which none event comes off; the model has no have the actions, in which none event come in; arrows of events have no to hang free by their ends. Violations of these rules testify not only about technical, but also about organizational, logic errors at planning. In particular, presence of "dead end" events may testify the fact that one was forgotten to indicate a communication of this investigatory action with other one, or the fact that the result of action prior to the event does not need for fulfillment of the following actions.

Working out the programme is completed by determination of continuance of investigative actions and organizational measures, which is recommended to produce in days. Unlike of calendar planning, MEOP gains with notion so named of calculated expecting time, which is presented to be a result of probabilistic method of assessment of works' duration. Estimated time is determined in it on special formula,

for which, firstly, are formed two primary probabilistic temporal assessments of that or other action: minimal and maximal duration, and later on special formula calculates statistic averaging of time.

In purposes of reduction of influence of volitional moments at process of determination of actions' and measures' duration, they are conditionally divided into the four groups: 1) time of production determined by the law or comes from law's requirements; 2) time of production regulated with auditing or expert institutions; 3) duration is determined with their nature; 4) duration is defined at basis of investigator's experience. Determination of works' duration might be produced before or after working out time-table that does not impacts on planning [9, p. 118-119].

Calculation of time-table parameters on computer is the main stage of the method. For that, technical personnel receive data on primary date, duration of the works and their ties. Names of investigatory actions are not passed to programmers that provide non-disclosure of investigation's data. In few minutes in disposal of investigation will be presented time-table containing data about duration whole investigation and investigatory actions, earlier from possible and later from admissible terms of beginning and completion all actions and measures, which included in a plan, all kinds of reserves of time for actions, which not laid at critical way. To avoid possible technical mistakes at working out the models, a work with the latter and calculation of parameters should be duplicated; in addition this work takes few minutes.

The most total duration of certain chain of investigative actions, i.e. critical path, might be less or more of prescribed time. The first occasion it appears additional reserve of time, and in the second one – so named "negative reserve". In the last occasion a time-table is revised with purpose its "tightening", which might few times be carried out with method of consequent approximations, i.e. repeated "squeeze" of critical path. Reduction of time-table in compliance with prescribed times is carried out through: a) changing of temporal assessments, i.e. replacing of normal duration that or other action into shortcut; b) so named changing of typology of the net, i.e.

elimination ones planned investigatory actions and replacing them into other ones; c) separation of the actions and their combination at time. All these corrections might be calculated on computer in optimal variant [9, p. 119].

Naturally, in course of realization of investigation's plan might be appeared various alterations. It appears necessity of new actions' conducting, initially included in time-table measures are turned to be unnecessary, might be changed duration of separate works as in less so in bigger side, as result the critical path will be other path, another chain of investigatory actions. But it is not an obstacle for MEOP since new critical way might at once be discovered after conducting repeated calculation of model's parameters with considering alterations, which included in time-table.

Advantage of developed method consists not only that it is detected a complex of investigatory actions, which determine final term of whole investigation, but also that it is created an opportunity of periodic and quick revelation of interconnected chain of investigative action in course of disclosing of plan with considering its alterations.

Resuming of stated, we may make a conclusion that MEOP like a method of modeling and investigatory planning allows: a) to formulate clearly all interim aims and tasks leading to achievement of main goal of investigation or production of investigative action; b) to detect and to reflect in details the actions and measures (independently on their scale), conducting of which is necessary and sufficiently for achievement of specified goal; c) to reflect and present visually relationships between actions and measures, their logic structure; d) to carry out substantiated forecast of "critical" chain of actions and measures, i.e. those actions and measures, time of conducting of which determine a term of investigation or production of investigative actions in whole, thereby to detect in advance "narrow" places in a plan; e) to provide an investigator timely and comprehensive information about actual state of fulfillment of a plan and to lighten making substantiated tactical decisions; f) to correct systematically a plan in compliance with actual state of investigation or course of preparation and conducting a separate investigative action according to changes happening in "accounting period", and thereby to realize practically a

principle of continuity (dynamism) of planning; g) to use more efficiency personnel and timing resources; h) to receive answers the questions like how earlier of planned time it possible to begin and how later to complete conducting of that or other action in order to be kept in planning time; where find necessary reserve of time in order to be kept in planning time or accelerate fulfillment of plan, what timing reserve frames in exact measurement; whether may postponed beginning or increase duration of that or other investigatory action so that it would be remained without changes a planning time of beginning of the next action; i) to research through models a crime of their criminalistical nature and process of investigation; k) to use a model for optimization of investigation process.

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