

USING FUZZY-TECHNOLOGY FOR CREATION PLAN DESIGN WORKS

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Described problems forming a plan of work in the implementation of the automated system. Successful implementation of the project requires a clear plan for the duration of each work project, but in the real world it is difficult to perform, because much depends not only on the performers, but also a large number of extraneous factors. So there is always uncertainty in the time duration of work within the development project plan. This leads to the need for Fuzzy-technologies for solving problems. This technology allows for various rankings (value) priority of work and, thus, is very effective in planning.

FUZZY-technology, project management, plan, work, resources, critical path method (MKSH) uncertainty.

In modern terms of project management implementation of information systems (IS) are increasingly moving away from traditional plans. The use of flexible technology projects leads to problems in determining the amount of resources, time, volume of the project. FUZZY-use technology when developing project work plan will effectively take into account the impact of uncertainties.

In solving real problems creating a plan design work at difficulties:

- not all targets of choice-making and control conditions affect this choice can be expressed in the form of quantitative relations. Poorly defined criteria fuzzy priority project activities;
- absent, or is unacceptably complex technical tasks for design work;
- much of the information necessary for the mathematical description of the object exists in the form of representations and wishes specialists and experts to implement automated systems;
- subjective assessment of the situation by the person who makes decisions on each stage.

The most acceptable solution to a practical problem is the approach based on the theory of fuzzy measures and fuzzy integral calculation, which pretty much summarizes the known approaches to describing uncertainty. Fuzzy-technology includes conceptual, organizational, mathematical foundations and tools that will predict the project implementation plan IC as close to the actual results.

Materials and methods research. Recently, researchers, and practitioners in the field of innovation management began to pay more attention to the so-called «fuzzy front end» - fuzzy early

completion of product development, also known as phase «pre-development» - pre-development, «pre-project activities» - pre-measures or «pre-phase 0" - zero phase. Managers identified the previous phase of the software, as the weak. It is defined in the previous step as it will be implemented design, quality, cost, resources, time - limit. Research in this area demonstrate that efforts to optimize the planning of the project are minimal. In contrast, the impact on the overall efficiency and effectiveness of the entire project is significant. Accordingly, it was determined by two factors which play an important role in the success of the project automation: quality pre-implementation activities for the launch of the project, and a clear sequence of stages of the project.

The process of developing an automated system begins with the generation of ideas derived from basic research, customer surveys based techniques and creative methods. During Phase I, estimated idea. This may be a cyclical process, detailing idea generated and evaluated in several stages (most effective at this stage can be achieved with highly qualified team of analysts that create discussion unified concept, vision, goals and objectives of the project).

The objective of Phase II is to develop more product concept and initial planning of the project. Exit fuzzy first part (phase 1 and 2) is a detailed business plan, which is the basis for the decision to implement the project. In later stages of place is laid in the previous phases. Ignoring all risks in the planning phase may adversely affect the success of the whole project. During the development of IP in the planning phase must be gathered all the necessary information to reduce risks and uncertainties. Uncertainty is defined as "the difference between the amount of information needed for the job, and the amount of information that has already Organization." The more risk or uncertainty can be reduced to the previous phase of the project, the less deviation from the planned specifications (results) will be the next stages of the project and, therefore, higher quality of the whole system.

Results. Let the disposal of a resource R , which is necessary for the performance of work n the project, each of which requires the appointment of each resource and the work-

To construct the metric distances presentation sequence works use critical path method (MKSH).

Hours for each activity (project) in fuzzy network project is characterized as positive Keystone fuzzy number.

According to MKSH, fastest passage leads to fuzzy early start and an early end time [7].

Calculating return passage work on the project is carried out to calculate the fuzzy end of the late start time end:

Each work is limited by a certain set of criteria for the implementation of works - resources.

Thus the application of mathematical optimization techniques in Fuzzy-technology allows you to forecasting the implementation of project work, depending on fluctuations in resource

allocations (including themselves determine the amount of resources), scope of work, project duration, and so on.

Conclusion

The approach to solving analytical problems under uncertainty allows the use of appropriate technology - Fuzzy-technology. This technology includes mathematics, software engineering, information and organizational methods. The technology used in solving a wide range of tasks. And it is to create a project work plan where necessary to perform simulation, evaluation, distribution, identification and assignment of resources, and is managing organizational and technical systems in the project, using Fuzzy-technology is very relevant and reasonably necessary.