SIMULATION MODEL OF AFTER-SALES SERVICE PROCESS OF OFFICE EQUIPMENT

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Today companies invest into computers, networking equipment, hardware and software as well as services of respective specialists. It is possible to distinguish large enough group of goods, the life cycle of which starts from the moment of sale. They include: manufacturing equipment, automobiles, consumer electronics, office equipment, etc. The distinctive features of these goods are the necessity of regular service, scheduled repairing, parts and units replacement, consumed materials availability, etc. The office equipment is an illustrative example of service problems.

The office equipment service is a set of means directed to the maintenance of the smooth functioning of the clients' equipment. It includes:

1   Warranty and post-warranty equipment service.
2   Customer consultative support.
3   Organization, maintenance and modernization of computer networks.
4   Equipment delivery and modernization, etc.

The success of business in the after-sales service area is defined by high-quality level of consumers. The key criterion is the service time.

We consider the process of office equipment after-sales service in 2 steps. They are: 1) processing of an application; 2) the performance of service works. The application processing is reflected in the communication between an operator and a client. If the client's problem can be solved, it will be solved by engineer on the stage of the performance of service works.

There are the main tasks of the service center that should be resolved to improve the service quality of consumers. They include: research of key business processes; estimation of average service time; correction of key business process; experiment with different parameters; estimation of alternatives; implementation of the best practice. To solve these tasks we may need to use the simulation model of after-sales service.

In the given work we assume that: 1) after-sales process is presented as queue system; 2) applications arrive with the Poisson arrival distribution, and 3) we have two types of servers (operator and engineer) with exponential service time distribution.

The applications get into queue, after they are processed by one of the operators and handed to engineers. The total service time is influenced by queue discipline, the type and the priority of application. The algorithm of simulation model is developed.