Modeling of Banca d'Italia Back

Business Processes

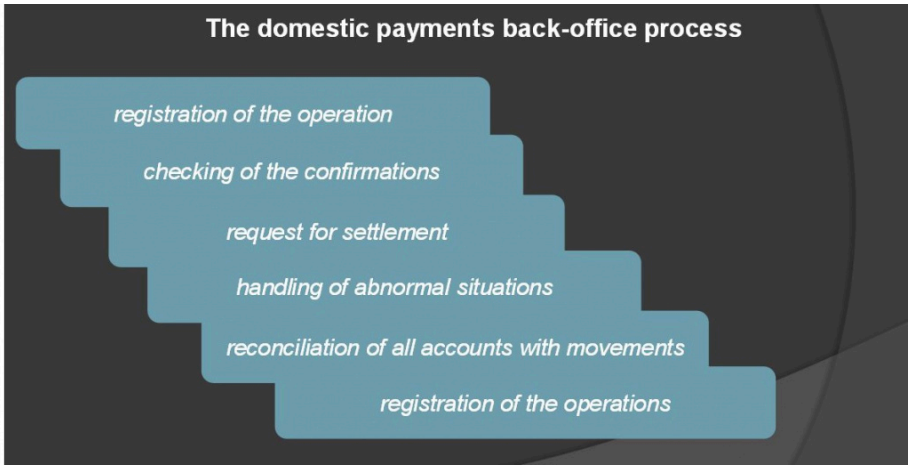
Banca d'Italia processes a certain amount of manual credit transfers every year. These transfers cannot be processed automatically and require two divisions of employees in the back office of the bank. The bank wanted to determine if merging these two divisions would be beneficial.

Problem

category performed different tasks.

Officers in unit A authorized, by signature, the transmission of the payments registered within the IT system to unit B so that they could begin working on them. An assistant in unit A could not fulfill the tasks of an assistant in unit B. Unit B started its operations only when unit A had completed its tasks for each single process. Therefore, the tasks of the two operating units were different and sequential.

The domestic credit transfer process was not the only task performed by these units, but it was the most important one, as every payment had to be carried out within a time limit (5:30 p.m.). If this time was exceeded, clients would apply to the bank for the payment of penalties, which is why this process was a top priority for both units.



The goals of the simulation modeling project, carried out by Fair Dynamics Consulting, were:

- To verify the effect of employees' absences (due to holidays, training, sickness, etc.) on the process completion time

or a change in the authorization and control process.

Solution

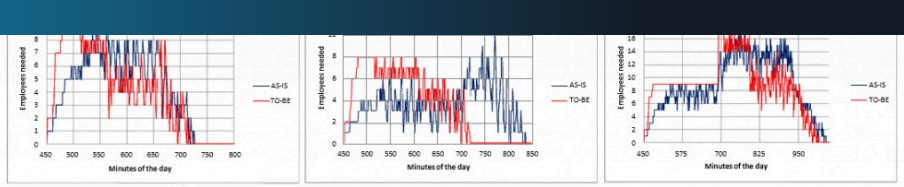
The consultants employed AnyLogic's unique capability to use different modeling methods and created two models of the system, one in Discrete Event and the other in Agent Based, to ensure the output. The numerical results were the same. Traditionally, such systems are often simulated with the Discrete Event method. In this case, the Agent Based model was easier to use and quicker to build.

Several experiments with the system were carried out:

- Normal activity: units' time performance in a day with a standard volume of payments.
- Absence of employees: units' time performances in a day with a standard volume of payments and with the absence of one critical resource per shift.
- Abnormal activity: time performances in a day with a 300% increase in the volume of payments.

The efficiency of the "as is" (current situation) and "to be" (possible merger of the two organizational units) scenarios is compared on the graphs (see the graphs). The graphs illustrate what would happen in a normal working day for both scenarios.

The advantage of merging the two divisions was clearly shown in the simulation for an absence of employees. In the current scenario, the units were not able to meet the deadlines for processing all the payments if an employee was absent. The merger

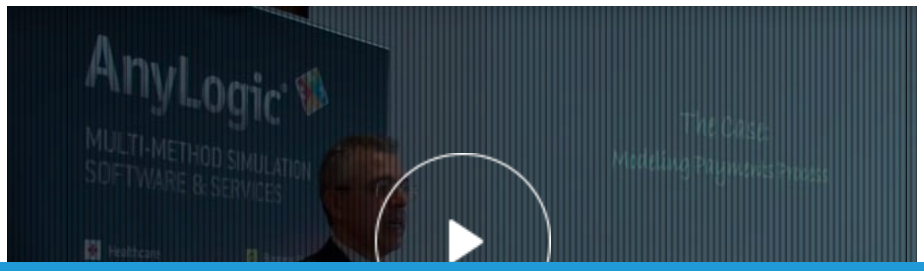


Outcome

The simulation showed that the merger of the two current operating divisions into one would be very beneficial. The merger would produce the following advantages:

- An evident increase in the productivity of the whole process, by increasing the effectiveness of the process and freeing part of the employees' working time, possibly for use in other processes.
- A sensible reduction of operational risks, by improving the volume/completion time trade-off and carrying out more payments, within the completion time limit, with the same number of employees.
- A reasonable reduction of the employee stress threshold, especially on abnormal activity days.

Watch Luigi Geppert from Fair Dynamicsof Italy presenting this project at the AnyLogic Conference 2012 or download his presentation or a paper based on this case.



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