Dynamic Simulation Model as a Decision Support of Management at Ostrava University

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Papers deals with issues relating to strategic management and decision- making and opportunities to use a dynamic simulation model as a system for the support of decision-making processes, namely for selected activities of a university faculty (college).

Exploitation of dynamic systems and management simulators in daily practice results in rational decision-making. Implementation of new methods - among which we can also find methods based on dynamic systems modelling – in daily management practices helps us to proceed from the empiric-intuitive decision-making to the decision-making on scientific basis. The subject matter of the study sphere modelling rests in the system of study branches, covers departments which provide the individual study branches, number of students in individual years of study, the throughput of individual study branches from year to year and passable ness of study in the given time intervals.

The paper describes the proposal and creation of a dynamic simulation model as a system to support strategic decision-making and its verification in daily life, at the Faculty of Natural Science of the Ostrava University. The model submitted also provides verification of applicability of system dynamics methodology. The given methodology is based on methods of system approach towards solutions relating to complicated and complex systems. There are software systems supporting the system dynamics, for our thesis we used the Powersim Constructor.
The simulation model which has been created can serve to the faculty management as a system to support the decision-making, which cannot, by any means, replace the decision itself. To use such information technologies which can be controlled in an easy way and exploited in an interactive way by the decision-makers themselves, will result in better quality of decision-making. The paper submitted tried to show one of the ways how to create simple simulation models and outlined its potential application in daily practice.

Model creation of the faculty
The comprehensive model of the faculty should be solved as an interconnected system of individual partial models which should include the following areas: area of study, tuition and personnel area, financial area.
We are able to say about all the stated models that they are dynamic, there are constant changes in them which are caused by both, continual internal changes in study programs of particular fields as well as in changes relating to the number of admitted students, and by permanent alterations in the numbers of students. Then, there are changes in personnel, tuition and financial areas. Time lag within which we are able to identify the changes is 1 term.