

**МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ  
СУМСЬКИЙ ДЕРЖАВНИЙ УНІВЕРСИТЕТ  
ФАКУЛЬТЕТ ІНОЗЕМНОЇ ФІЛОЛОГІЇ  
ТА СОЦІАЛЬНИХ КОМУНІКАЦІЙ**



**СОЦІАЛЬНО-ГУМАНІТАРНІ  
АСПЕКТИ РОЗВИТКУ СУЧАСНОГО  
СУСПІЛЬСТВА**

**МАТЕРІАЛИ V ВСЕУКРАЇНСЬКОЇ НАУКОВОЇ КОНФЕРЕНЦІЇ СТУДЕНТІВ,  
АСПІРАНТІВ, ВИКЛАДАЧІВ ТА СПІВРОБІТНИКІВ**

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because gas is easy to compress. We can identify two types of blows: a full(direct) and a partial (indirect) hydraulic shocks.

Water hammer may result in gap pipe, damage of fastening devices in pipes, pumps, foundations, pipe fittings and other negative aspects. This negative phenomenon leads to the emergence of resonance. The oscillations can be used to solve a problem as a directional control valve sticking.

Displacement pumps are widely used in engineering as a part of the pump unit. The unauthorized pressure in the network is a sharp overlap of the shut-off valve which leads to water hammer. We can put out a hammer or use some resonant oscillations to prevent a negative phenomenon such as a directional control valve sticking.

## **INFORMATION TECHNOLOGY OF MACHINE LEARNING DECISION-MAKING SYSTEM**

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The aim of the AI techniques embedded in an intelligent decision support system is to enable these tasks to be performed by a computer, while emulating human capabilities as closely as possible.

Many IDSS implementations are based on expert systems, a well established type of KBS that encode knowledge and emulate the cognitive behaviours of human experts using predicate logic rules. They have been shown better performance than the original human experts in some circumstances.

Expert systems emerged as practical applications in the 1980s and were based on research in artificial intelligence performed during the late 1960s and early 1970s. They typically combine knowledge of a particular application domain with an inference capability to enable the system to propose decisions or diagnoses.

Accuracy and consistency can be comparable to (or even exceed) those of human experts when the decision parameters are well known (e.g. if a common disease is being diagnosed), but performance can be poor when novel or uncertain circumstances arise.

Research in AI focused on enabling systems to respond to novelty and uncertainty in more flexible ways is starting to be used in IDSS. For example, intelligent agents that perform complex cognitive tasks without

any need for human intervention have been used in a range of decision support applications.

Capabilities of these intelligent agents include knowledge sharing, machine learning, data mining, and automated inference. A range of AI techniques such as case based reasoning, rough sets and fuzzy logic have also been used to enable decision support systems to perform better in uncertain conditions.

## **THE PROCESS APPROACH AND PROCESS MODELING**

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The aim of the research is to examine existing approaches to process and functional management of the organization and the benefits of process description.

Organizations spend a lot of money and time to manage their functional hierarchy. However, the work does not move up and down along functional hierarchy, it flows through the organization as a set of processes that most organizations do not control, and take no responsibility for them.

The differences and the benefits of functional and process approaches are the following:

- 1) with a process approach there is a customer orientation (the result), that is CRM- approach; owner submission process; priority is made on the functions that are important for other stakeholders, active cooperation with stakeholders; higher management flexibility; focus on cost (the cost of the process), its duration and quality; transparency of operations;
- 2) with a functional approach, we focus on the head (head of subordination); priority is made on the functions in which his unit is interested; there is a tendency to "bureaucracy" as a consequence, the loss of managerial flexibility, low speed decision-making, loss of information; the contradiction between the goals of functional units.

Process approach is the most important feature of perfect management. This approach is used as a base in the international standard ISO 9000. The process approach implemented through process modeling is a description of processes and their optimization.

The transition to process-oriented management organization based on the requirements of ISO 9001: 2015 will allow to list the main processes. It will also allow to draw conclusions about the rationality of