

This study is focused on discussing the efficiency of organizations relying on their internal processes heavily. It is focused on highlighting the popularity of BPR (Business Process Reengineering) as a method and model to improve internal processes for medium and large companies.

The paper introduces an approach to address the problem in generating process models automatically by integrating a process modelling tool called SHAMASH using AI planning techniques. SHAMASH is described in this study as a tool that facilitate simulation, modeling and the optimization of processes while considering realistic organizational models and interactions between humans.

In today's business environment, traditional methods in the forms of BPR are not sufficient enough for radical changes demanded by organizations. It is here that SHAMASH a tool for process modelling falls short due to manual input. This article is focused on looking at the potential of integrating AI planning techniques to automate and enhance workflow management.

The study focuses on the SHAMASH system and its integration into AI planning techniques. Essentially, the system is divided into four subsystem:

- An author subsystem where users can define standards, process, and organization structures simply by inputting commands on an interface. The sequences of processes are described step-by-step and connections between those processes can be made to run simulation and as a result, optimize a process when needed.
- A simulation and optimization subsystem where process behavior is checked, and problems are identified in order to produce more optimized models
- A text generation subsystem, which ensures that a graphical text and the representation of processes generated in HTML are consistent
- A Workflow Interface Subsystem, which translate the process models into a language compatible with workflow engines to guarantee a seamless execution

The SHAMASH way of organizing processes focuses on activities at the center with those activities needing resources to meet the requirement set by the users.

On the other side, AI planning techniques are concerned with solving problems efficiently. Users define actions and start a scenario, in this case, a trip planning: the planner creates a plan and a sequences of actions. In the business world, processes can be compared to plans, as they involve a series of steps to a desired output. For BPR, planners need inputs like initial state and goals which relate to the BPR tools' knowledge.

AI planners create plans, and those plans are the steps to solve a given problem. In the context of BPR, processes involves steps. And in this study, the PRODIGY software planner was used connecting AI planning techniques with workflow tools. The goal here being to turn a SHAMASH model into a prodigy plan and back. Using PRODIGY 4.0 and SHAMASH to combine fields, to merge workflow modeling with planning and learning, with the output being a more efficient problem solving and decision-making process. SHAMASH helps define processes and rules for how things should work in an organization. PRODODGY is a planner that figures out the best way to execute those processes. SHAMASH set the guidelines and PRODIGY makes the plans to follow them efficiently.

This paper developed a framework merging workflow and AI planning by combining the SHAMASH system presented and PRODIGY 4.0 to show that these fields can work together and help in the modelling of business processes using AI planning techniques.