

# Jordan University of Science and Technology

## Enhancing Cultural Learning under Environmental Variability Using Layered Heterogeneous Sociometry-Based Networks

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**Abstract:** Our goal in this paper was to investigate the impact that the addition of a Heterogeneous layered Social network will have on problem solving ability of a Cultural system. The synergisms of the emergent swarms in the population and belief spaces are affected by training the social network on a dynamic but recurring pattern weaved by our social influence function. The cultural system has adjusted its knowledge sources and their interactions in order to produce swarms of agents that can predict changes in parameters. Improved knowledge of the situation produced tighter formations because of increased concurrence on the planned trajectory among the active knowledge sources through the use of history knowledge which was illustrated through the interaction and overlapping of the bounding boxes.