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Towards a Knapsack Model for optimizing e-Training services delivery: Application to Hybrid Intelligent Tutoring Systems

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Abstract

Nowadays, there exist many alternative training approaches to that of traditional “one size fits all” one. The main aim of these approaches is to adapt learning content, activities and paths to support trainers especially in professional and non formal contexts. In order to achieve a given e-Training objective, several pedagogical approaches, e-Training paths, activities and resources could be combined in different more or less efficient ways. Measuring efficiency and providing the most relevant combination or orchestration of e-Training activities is still a challenging problem, especially for decisions makers that have to face several constraints as time and budget. Depending on the ultimate goal of a given company and its context, this problem could be considered as a combinatorial optimization decision making one.

The main aim of this paper is to provide an e-Training model optimization model and to solve it. of the model is based on knapsack . A numerical experimentation is carried on through an authentic case study.

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Keywords: Optimization, Knapsack model, Hybrid ITS, e-Activity as a Service, e-Training Services.

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