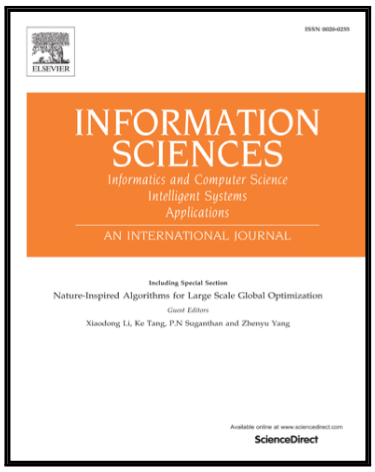

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An intuitionistic method for the selection of a risk management approach to information technology projects

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ABSTRACT

Over the past twenty years, institutions and individuals have proposed a wide variety of standards, models and methodologies for the management of risk, many of which can be applied to projects in the area of information technology (IT). The purpose of this research was to develop a method for the selection of the most suitable option for the management of risk in IT projects, in accordance with the needs of the organization. In order to obtain a simplified, more intuitive and easier to implement method, we developed a new graphical vectorial approach by modifying an intuitionistic procedure for its adaptation as a multi-criteria tool for managerial decision-making. The method is complemented by Mean-Variance calculations. The weights of the evaluation criteria are obtained by a graphical approach to the Fuzzy analytic hierarchy process (FAHP). The application of the proposed method was preceded by a documentary research and the use of mapping study techniques for the pre-selection of options. A numerical example based on a case study permits to test the suitability of the proposal. Several future lines of investigation are proposed.

Keywords: Intuitionistic fuzzy set; Fuzzy analytic hierarchy process; Information technology project; risk management; Mean-Variance model.