Computer Science & Engineering: An International Journal (CSEIJ), Vol.2, No.5, October 2012

**SOLVINGTRANSPORTATIONPROBLEMS USINGTHEBESTCANDIDATESMETHOD**

Abdallah A. Hlayel, Mohammad A. Alia

Department of Computer Information Systems,

Faculty of Science and Information Technology,

Al-Zaytoonah University of Jordan, P.O. Box 130 Amman 11733 Jordan hlayel@zuj.edu.jo, dr.m.alia@zuj.edu.jo

# ABSTRACT

***Problem statement:*** *The optimization processes in mathematics, computer science and economics are solving effectively by choosing the best element from set of available alternatives elements. The most important and successful applications in the optimaization refers to transportation problem (TP), that is a special class of the linear programming (LP) in the operation research (OR).* ***Approach:*** *The main objective of transportation problem solution methods is to minimize the cost or the time of transportation. Most of the currently used methods for solving transportation problems are trying to reach the optimal solution, whereby, most of these methods are considerd complex and very expansive in term of the execution time. In this study we use the best candidate method (BCM), in which the key idea is to minimize the combinations of the solution by choosing the best candidates to reach the optimal solution.* ***Results:*** *Comparatively, applying the BCM in the proposed method obtains the best initial feasible solution to a transportation problem and performs faster than the existing methods with a minimal computation time and less complexity. The proposed methods is therefore an attractive alternative to traditional problem solution methods.* ***Conclusion/Recommendations:*** *The BCM can be used successfully to solve different business problems of distrbution products that is commonly referd to a transportation problems*.

# KEYWORDS

*Operation research, transportation problem, linear programming, optimization problems, transportation model, Vogel’s approximation method, best candidates method, optimal solution, solving optimization, and objective function.*