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Crisis management and providing a model for vehicle routing-covering problem with restricted capacity (Crisis logistic)

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Abstract

Crisis is a subject that all organizations and societies face with it, according to their entity and activities. Crisis and its relevant measures can be investigated based on three categories: Pre-crisis measures, measures during crisis, Pro-crisis measures. In this paper we first consider crisis and then provide a model for goods distribution in order to giving aid. and, vehicles deliver goods from ware house and move to damaged areas. The main object is giving aid in the less time and costs reducing, for this reason we should reduce the cost of ware house stationing and time. Furthermore, there is no need for the vehicles to visit all the areas since some of the areas can be covered with their corresponding adjacent areas. Finally, aforementioned model is solved by the innovatory method and shows innovatory method has ability to calculate answer with proper quality and mean-time equal to 61.534. and innovate this paper is calculate time, cost of storage and routing-covering problem together and decrease total cost.

Key words:

management, crisis, organization, cost, vehicle, routing, problem, crisis logistic.

1 Introduction

With the beginning of ultra-industrial era or in other words, the age of communication and information revolution, suddenly, many organizations and various social, political and economic organizations encountered with the same destiny as a city face during the earthquake. The new era put an end to the period of organizational peace and withdrew them from the conventional and classical period with surprising shocks and threats and placed them into a risky period called strategic period. Potential events and accidents aren't considered crisis and if we can't control and manage them efficiently, they can lead to appearance of numerous crisis. Basically conditions and phenomenon are viewed as crisis that whether are created by the man or man play a role in creating them. Term of crisis management put under observation since 1982- after Johnson Company faced with a huge crisis that jeopardized its life.

Until now, many researches had been considered crisis management and route-finding problems that we can use them for route-finding of vehicles to give aid to the damaged areas.

A research was accomplished in the field of creativity and the crisis that is caused by the influence of working of creative incumbents on the local unemployment-currried (stolarick and halkett, 2012). internal crisis management and relationship between crisis and organizations too (johansen et al, 2012) was accomplished.

In the field of regularity theory on irregularity and crisis management of tourism objects (speakman and sharply, 2012). Consideration of linear programming model of travelling salesman problem in year 2012 (salari and Naji-Azimi, 2012).

A research had studied training of effects of performing of crisis management (Borell and Eriksson, 2013), and changdar in year 2013 about genetic algorithm for multi-objective problem of the travelling salesman (changdar et al, 2013) was performed . Vehicles route-finding program with indefinite demand and strong strategy was considered in year 2013 (Erbao et al, 2013).

New commercials models and crisis management were considered too (Beqiri, 2014). Communications and discussion regarding crisis, application of the effect of Facebook in crisis management and consideration of 500 best company in year 2014 (Ki and Nekmat, 2014) studied. Multi-objective travelling salesman problem as well as covering problem had been studied in year 2014 (Florios and Movrotas, 2014).

2 Crisis Definition

It should be accepted that providing a finite definition for crisis is very different and all provided definitions are proportional too, a subject maybe crisis for an individual, organization and society but it may not be considered crisis in other society. This note is accepted by many societies under crisis conditions, rapid and efficient actions must be taken to prevent any worsening of the conditions.