

DIFFERENT VIEW ON COMPLETE TRIPARTITE FUZZY GRAPH IN SHIFT BASED COMPANY WORKERS

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ABSTRACT. The author investigate about this paper, drawing a complete tripartite fuzzy graph in coloring. And also discuss, how to use fuzzy numbers in this graph. The author explains how it is applicable for practically, if workers works randomly in six working days in shift basis without interference of others to complete their work.

1. INTRODUCTION

This paper the author introduce the idea if the vertex coloring diagram, which proves a strong tool for representing human knowledge. Moreover, we representing the coloring diagram in three dimension. Further we throw a flowchart to support the general policy of graph structure.

The vertex coloring graph system complete with the fuzzy graph and their performance has been carried out by using three different color in the graph. The set of vertex coloring $C(c_1c_2c_3)$, C means color and $c_1c_2c_3$ three different color responding c_1 represent red color and c_2 represent the blue color and c_3 represent the yellow color similarly each vertex has six edges. According the fuzzy logic by assigning each number is applied for each vertex. Which is maintained by some distance. The travel allowance has been consider as different distance.

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Further the detailed analysis on this feature may be established through a fuzzy modelling procedure. The fuzzy graph are completely described in vertex coloring and also each and every model are shown in the separate color. The fuzzy numbers applied for each vertex has some distance. The degree of the vertex has same, each vertex has same degree. The starting time can't change because each vertex has degree is 6. Through this vertex diagram, the travelling distance has been converted into fuzzy numbers for the representation mathematical observance.

Definition 1.1. *A complete tripartite graph G , designated $K_{A,B,C}$, has the following properties.*

1. *The vertices can be partitioned into 3 subsets, A , B and C .*
2. *Each vertex in A is connected to all vertices in B and C .
Similarly for the vertices in C and B .*
3. *No vertex in A is connected to any other vertices in A .
Similarly for the vertices in B and C*

Definition 1.2. *A fuzzy number is a generalization of a regular, real number in the sense that it does not refer to one single value but rather to a connected set of possible values, where each possible value has its own weight between 0 and 1. This weight is called the membership function.*

Definition 1.3. *A fuzzy graph is a pair $G : (u, v)$ where u is a fuzzy subset of a set U and v is a fuzzy relation on U .*

For further details see [1–6].

2. REAL LIFE PROBLEM

In this fuzzy graph should be used in real life of various company worker working in a company. Without interference the company worker works details given in this paper.

Let G be a graph with vertex set $V(G)$, $V(G)$ is a coloring fuzzy graph then $V(G) \rightarrow [c_1 c_2 c_3]$. Each edges of $C \rightarrow [0, 1]$. So this proves a formal premise to construct a theory for the reason for a variation in own performance and characteristics. The analytical performance is so far carried out by vertex coloring diagram. A, B, C individual.

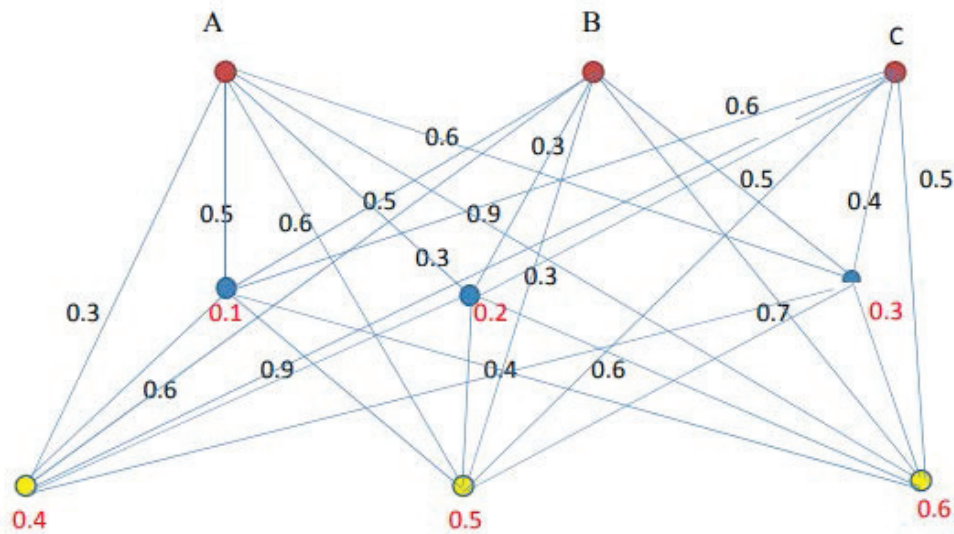


FIGURE 1. Complete tripartite fuzzy graph

The presentation analysis of the each fuzzy set has various consequent based on the following factor.

Let the graph structure A is considered as one of the worker of the company. Each company is carried out by 6 working days and Sunday is considered as a holiday. Every edges has been converted into 6 week days as Monday Tuesday Wednesday Friday and Saturday. In particular the travel allowance may be considered as distance and the travel distance may be considered as fuzzy numbers. The fuzzy numbers has 0 to 1. So the proceeding distance will be calculated as fuzzy numbers.

The distance between 0.1 to 0.3 distance has the travel allowance is 300 rupee per day. And 0.4 to 0.6 distance has the travel allowance has 600 rupee per day and also 0.7 to 0.9 has the travel allowance is 0.9 means that 900 rupee.

Let us consider 0.1, 0.2, 0.3, 0.4, 0.5 and 0.6 are 6 vertex has been converted into six companies. Six company names as converted to fuzzy numbers. Each company has different distance. About the distance, the travel allowance and salary will considered.

- 0.1 Monday
- 0.2 Tuesday
- 0.3 Wednesday

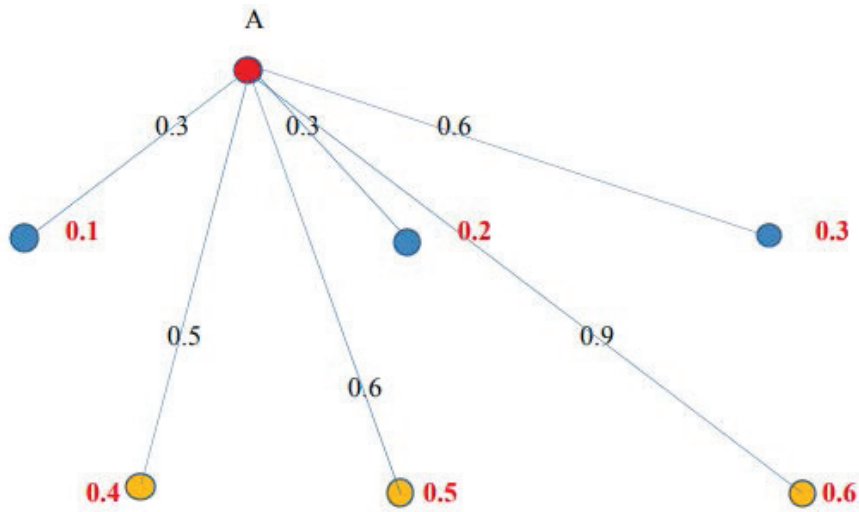


FIGURE 2. Worker A alone visit company details

- 0.4 Thursday
- 0.5 Friday
- 0.6 Saturday

A's work is investigate 6 company and list out the payment details. One company per one day. At the same time the worker should not clash his visit with other two workers B&C. A's investigate details given below

Worker	visit days	Fuzzy distance	Salary
A	0.3	0.6	600
A	0.2	0.3	300
A	0.6	0.9	900
A	0.5	0.6	600
A	0.1	0.3	300
A	0.4	0.5	600

In this fuzzy graph B 's worker of the company particularly he want to visit the companies in 6 working days. His work is list out the worker details about the company. At the same time the worker should not clash his visit other two workers A & C . Further the distance and vertices are calculated in fuzzy numbers.

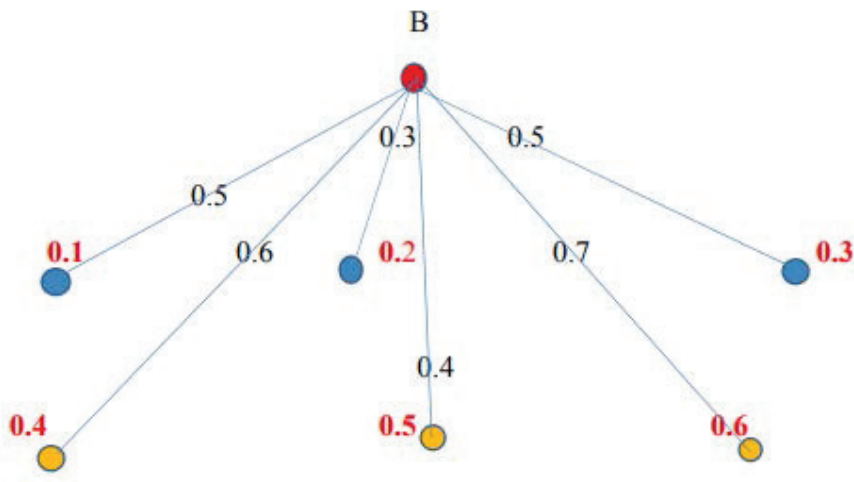


FIGURE 3. Worker B visited company details

Worker	visit days	Fuzzy distance	Salary
B	0.1	0.5	600
B	0.4	0.6	600
B	0.2	0.3	300
B	0.6	0.7	900
B	0.5	0.4	600
B	0.3	0.5	600

Let us consider C is the another worker. He also comes under the same scenario, which he should visit only one company for a day and that should not be

clashed. His work is visit the each company and list out the stock list and production list. The distance should be converted in to fuzzy numbers and also the vertex name has entered fuzzy numbers. The worker *C* investigate the company details given below.

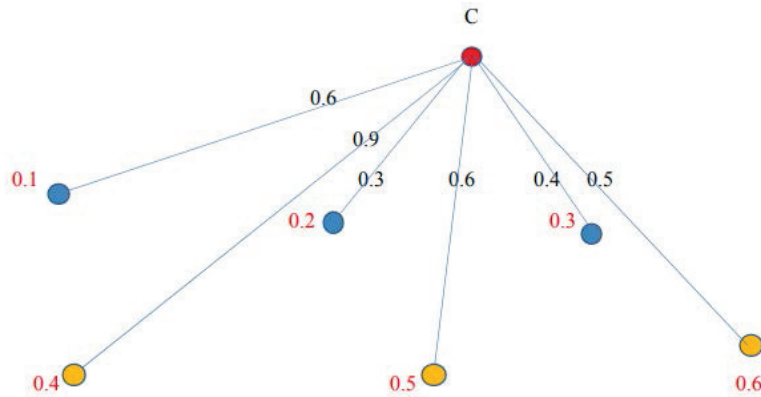


FIGURE 4. Worker *C* only visit company details

Worker	visit days	Fuzzy distance	Salary
C	0.2	0.3	300
C	0.3	0.4	600
C	0.4	0.9	900
C	0.1	0.6	600
C	0.6	0.5	600
C	0.5	0.6	600

3. CONCLUSION

We conclude that the complete tripartite fuzzy graph drawn by coloring. Each and every worker should travel in a separate way and they are not to mingle each with one another. So this vertex coloring graph proves a formal premise to construct a theory for the reason for such a variation in their own performance

and characteristics. Through this vertex diagram, the travelling distance has been converted into fuzzy numbers for representation mathematical observance. Finally each worker get same cost and working same distance within a week.

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