Hazardous wastes Evaluation of Weight sum method

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Abstract. In this paper hazardous waste comes from factories, hospitals, and certain types of household waste containing toxins that form. This waste is for corrosive, combustible, explosive or other materials that may react when exposed. Simply defined, hazardous waste is human waste that has properties that are harmful or detrimental to health or the environment. Many hazardous wastes pose an immediate health risk to anyone who comes in contact with them. It is something in between as a chemical by-product or as an impure solid may be material. For this reason, proper and quick removal is essential. Hazardous waste harmful to the environment. Waste generated by nuclear power plants and nuclear weapons facilities is the most dangerous hazardous waste. Industry is high in the United States and other industrialized countries although hazardous waste is generated; these wastes are highly controlled and controlled. In the weighted sum approach, multiplying each of our objectives by the weight provided by the user we measure the set of our goals by a single goal. This method is very widely used as one of the approaches. One question that comes to mind when doing the weighted sum approach, is what weights should be assigned to each purpose. Alternative: transportation firms 1, transportation firms 2, transportation firms 3, transportation firms 4, transportation firms 5. Evaluation preference: hygiene and safety, quality of service, complementary service, environmental protection. In this form of analysis WSM methods is the most ideal solution short-distance and negative-best the solution with the longest distance from the solution determines, but the comparison of these distances does not consider importance. From the result it's seen that transportation firms 1 is got the first rank whereas is the transportation firms 2is having the lowest rank.

1. Introduction

The weighted sum method is a multi-criterion decision method that has many alternatives, and we need to determine the best alternative based on a number of criteria. To find the weighted average, multiply each number by its weight and then add the results. The weights do not match then multiply the sum of all the variables by their weight and divide by the sum of the weights. Waste generated by nuclear power plants and nuclear facilities is the most dangerous hazard. Industry high levels of hazardous waste in the United States and other industrialized countries despite the creation, these wastes are highly regulated and controlled. Hazardous waste regulation and the general framework for evaluating public policy includes interactions (damage distribution system, damage mitigation system and regulatory system), and represents the whole waste. Industry affects hazardous waste production and there appear to be both definitive effects. Adjusted throughout ratings the comparison of r2 shows a significant increase with the addition of constant-effects variables. In particular, estimates with industry standard outcomes and (low) estimates without static effects then a series of estimates (maximum) with definite fixed effects, of hazardous waste supports the hypothesis of independent organizational scale impacts affecting size. Hazardous waste the use of untreated hazardous waste to reduce waste. Therefore, in our hazardous waste assessment the legislative purpose of incorporating the system is to ensure that the scheme is sufficient to change waste production behavior and creates economic incentives. Hence, the sum of the weights on the barrette-optimal front we use heuristic approaches to find points like attitude. Weighing in the sum approach, by multiplying each of our objectives by the weight provided by the user we measure the set of goals as a single target. This method is one of the most widely used approaches.

2. Hazardous Wastes

Hazardous waste is usually transported by truck on public highways. Very low volume transported only by train, almost nothing by air or inland waterway not moved. Highway shipments are very common because most of the road vehicles access industrial sites and approved tads. It keeps running. Treatment, storage and disposal (TSL) facility? In Contra Costa county, california. TSD the facility provides primary treatment for various industrial wastes. This is mainly hatching the liquid leaving the treatments placed in surface reservoirs for solar evaporation. Resource conservation and recovery act of 1976 (RCRA), incineration for both hazardous waste and PCBS has become a key removal method. Destruction and disposal capability. HWT for humans and the environment can pose serious threats. To address the proper management of hazardous waste, full target programming for managing and planning hazardous waste systems in the previous study came up with the model, combining AHP and goal programming to sequence conflicting objectives further improved the multi objective optimization model. Satjadi, improving the cost optimal for hazardous materials with numerical examples to show its validity in principle a practical approach to transport planning using the condensed quadratic optimization model proposed. Hsu et al. Medical using AHP and modified delphi technique aims to select the hazardous waste disposal company. Waste every year to assess the increasing health effects arising from exposure, wi and socioeconomic factors

evaluation of the inclination of the dose-response relationship between observed postoperative health effects it is necessary to do. Multiple extractions of the respective soils yielded a much higher overall recovery than expected. However, a sufficient extraction yield was obtained to meet the minimum analytical diagnostic objectives, i.e. -1 PPM total PCB concentration levels, avoiding increased solvent use, and thus increasing we appreciate the financial support for this work, including the creation of hazardous waste products. An in part, funded by the United States. Tufts university, center for environmental management and New Jersey institute of technology, northeast hazardous material research center, as well as the environment EPA by surveillance system labs-las Vegas. We support the United States and we are grateful. EPA zone 1, hazardous waste division, west borough superfund to provide samples and related soil sampling data from the site. Particles trapped in the filter at this location were selected to eliminate the effects of interactions between and sample gas. Particles loss of pohcs due to absorption will be considered in future. However, hazardous waste no significant absorption of low molecular weight compounds expected in emissions from combustion the latest release 10 indicates that should not occur. Destroys hazardous waste by incineration to obtain a permit, operators of hazardous waste incinerators must fill out the criteria defined by the resource protection and recovery act (RCRA). This is destructive and destructive (DRE) is the emission from test fuels of selected hazardous waste components. By sampling, and with the mass analyzed, the mass given to the igniter is also determined by correlation. This com is this advanced weighted product model (WPM) and is an integration of the weighted sum model (WSM). algorithm high quality social the use of face book accounts by businesses through the internet, as a transfer medium, is on the rise development of services and increasing compatibility of information and communication technology to rank, the criterion weight was estimated by the proposed variance measure for if's here, it is assumed that the five alternative transport companies will be rated as a, b, c, d and e. Revised Delphi the method is described in section 3.1 and is determined on the basis of a panel of 15 experts. These criteria are: 1. Hygiene and safety; 2. Quality of service; 3. Fill service; 4. Economic factors; 5. Service time; 6. Maintaining standards of human health and environmental protection; 7. Problem solving ability; 8. Own vehicle group. These criteria can be expanded step by step into sub-criteria.

3. Weighted Sum Model

The weighted sum system is often offered strictly as a tool, especially in the last few years, and the literature on examples of applications is extensive. However, focus on application is paid, and the problems are only with two objective functions. For example, a new one as a development for the approach, koski and sylvain (1987) made an early application of the amount weighed to deliver and get multiple pareto optimal solutions with a systematic change in weight using the method, while reducing size and nodal displacement. One often weighs the relative importance of each objective function considering common measurements. However, it may reflect the will of one goal or another choosing a set of weights can be difficult because the options are vague.

4. Analysis and Discussion

Table 1 transportation firms Alternative: transportation firms 1, transportation firms 2, transportation firms 3, transportation firms 4, and transportation firms 5. Evaluation Preference: Hygiene and safety, Quality of service, Complementary service, environmental protection. Hygiene and safety it is seen that transportation firms 3is showing the highest value for transportation firms 5 is showing the lowest value. Quality of service it is seen that transportation firms 2is showing the highest value for transportation firms 3is showing the lowest value. Complementary service it is seen that transportation firms 5is showing the highest value for transportation firms 4 is showing the lowest value. Environmental protection it is seen that transportation firms 2is showing the highest value for transportation firms 1 is showing the lowest value.

TABLE 1.data set of transportation firms

	Hygiene and safety	Quality of service	Complementary service	environmental protection
transportation firms 1	8.000	7.000	4.000	1.000
transportation firms 2	7.000	10.000	5.000	10.000
transportation firms 3	9.000	4.000	3.000	9.000
transportation firms 4	3.000	8.000	2.000	8.000
transportation firms 5	2.000	9.000	7.000	7.000

Table 1 shows the transportation firms it represents Hygiene and safety, Quality of service, Complementary service, and environmental protection. For the transportations firms
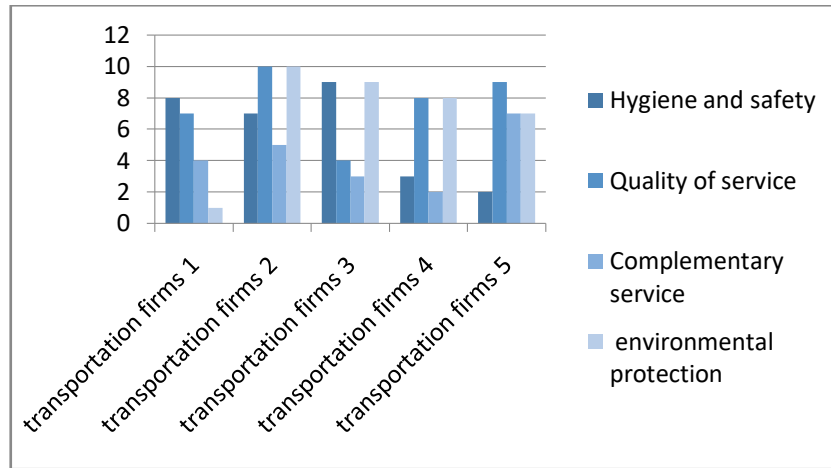
FIGURE 1. Data set of transportation firms graph

Figure 1 shows graphical explanation of transportation firms in this figure Hygiene and safety, Quality of service, Complementary service, and environmental protection for the six types of transportation firms.

TABLE 2. Data set of transportation firms

	Problem solving ability	**owned vehicle fleet**	**Economic factors**	**Service time**
transportation firms 1	10.000	1.000	8.000	9.000
transportation firms 2	8.000	9.000	4.000	1.000
transportation firms 3	7.000	5.000	3.000	5.000
transportation firms 4	8.000	4.000	2.000	2.000
transportation firms 5	9.000	8.000	1.000	8.000

Table 2 shows data set of transportation firms it represents problem solving ability, owned vehicle fleet, economic factors, service time .for the transportations firms .
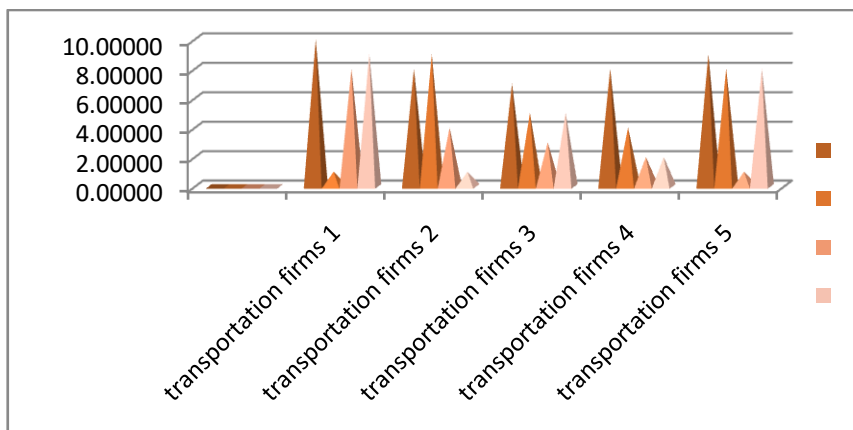
FIGURE 2.transportation firms

Figure 2 shows transportation firms it represents problem solving ability, owned vehicle fleet, economic factors, service time for transportations.

TABLE 3. Normalized data

	Problem solving ability	**owned vehicle fleet**	**Economic factors**	**Service time**
transportation firms 1	0.88889	0.7	0.5	1
transportation firms 2	0.77778	1	0.4	0.1
transportation firms 3	1	0.4	0.66667	0.11111
transportation firms 4	0.33333	0.8	1	0.125

transportation firms 5	0.22222	0.9	0.28571	0.14286

Table 3 shows the normalized data for above data set values it normalize the impropriate data format into calculatable value

TABLE 4. Weight

	Problem solving ability	owned vehicle fleet	Economic factors	Service time
transportation firms 1	0.25	0.25	0.25	0.25
transportation firms 2	0.25	0.25	0.25	0.25
transportation firms 3	0.25	0.25	0.25	0.25
transportation firms 4	0.25	0.25	0.25	0.25
transportation firms 5	0.25	0.25	0.25	0.25

Table 4 shows the weight all same value 0.25.

**TABLE 5.** weighted normalized decision matrix

	Problem solving ability	owned vehicle fleet	Economic factors	Service time
transportation firms 1	0.22222	0.175	0.125	0.25
transportation firms 2	0.19444	0.25	0.1	0.025
transportation firms 3	0.25	0.1	0.16667	0.02778
transportation firms 4	0.08333	0.2	0.25	0.03125
transportation firms 5	0.05556	0.225	0.07143	0.03571

Table 5 shows the weighted normalized data in this table shows weight valve from previous table sum with normalized data and then get the weighted normalized decision matrix.

TABLE 6. Preference score& Rank

	Preference Score	Rank
transportation firms 1	0.77222	1
transportation firms 2	0.56944	5
transportation firms 3	0.54444	4
transportation firms 4	0.56458	3
transportation firms 5	0.3877	2

Table 6 shows the Preference Score& Rank final result of this paper the transportation firms 1 is in 1st rank, the transportation firms 5 is in 2nd rank, the transportation firms 4 is in 5th rank, the transportation firms 3 is in 4th rank and the transportation firms 2 is in 3rd rank. The final result is done by using the WSM method.
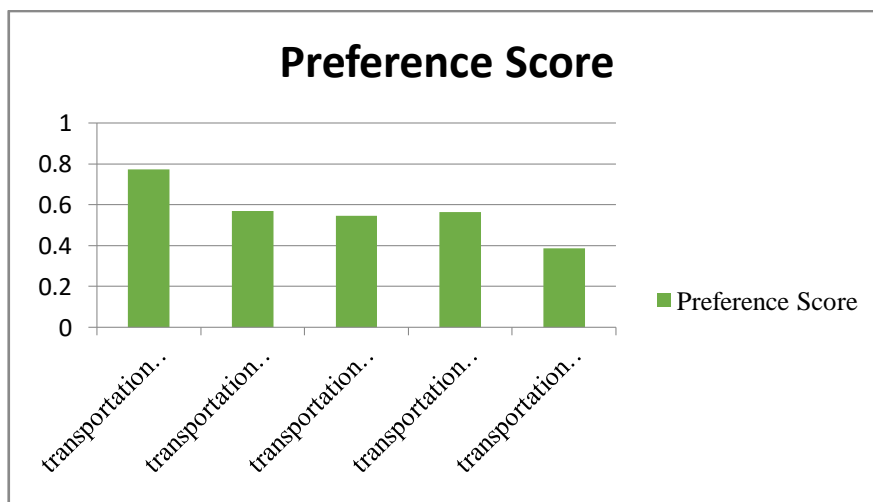
FIGURE 3. preference score

Table 6 shows preference score for the final rank decide using this score rank is based on highest value in the preference score table
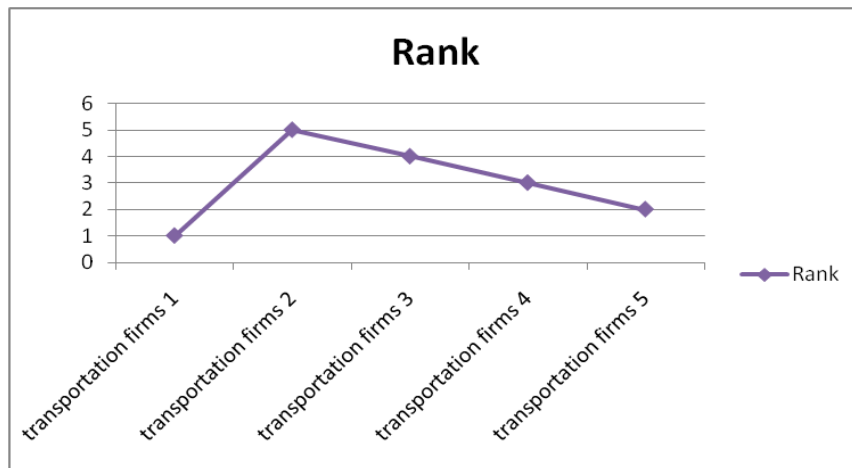
FIGURE 4. Rank

Figure 4 shows the graphical representation of the final result of this paper the transportation firms 1 is in 1st rank, the transportation firms 5 is in 2nd rank, the transportation firms 4 is in 5th rank, the transportation firms 3 is in 4th rank and the transportation firms 2 is in 3rd rank. The final result is done by using the WSM method.

5. Conclusion

Hazardous waste comes from factories, hospitals, and certain types of household waste containing toxins that form. This waste is for corrosive, combustible, explosive or other materials that may react when exposed. The weighted sum method is often strictly a tool presented, especially in the last few years, and the literature on examples of applications is extensive. However, the focus is on utility, hazardous waste generally on public highways are transported by truck. Only a very small amount is transported by train, almost nothing can be moved by air or inland waterway. Most of the highway traffic is common because road vehicles can access most industrial sites and approved tsdfs. From the result it is seen that transportation firms 1 gets the first rank whereas transportation firms 2 is having the lowest rank.

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