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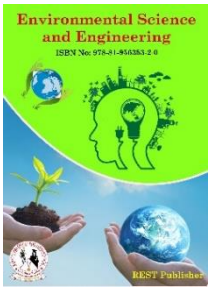

Water Quality Analyzing Barriers of Green Lean Practices in Manufacturing Industries by DEMATEL Method

Sudha Balasubramaniam, Manjula Selvam, M. Ramachandran, Sangeetha RajKumar
REST Labs, Kaveripattinam, Krishnagiri, Tamil Nadu, India.
*Corresponding author Email: sudhabalamithra@gmail.com

Abstract: *Water quality for a specific purpose, usually of drinking or swimming Depending on the suitability, its chemical, of water including physical and biological properties describes the condition. The quality of water is its of water based on quality of use Refers to chemical, physical and biological properties. Research significance: Usually through water purification of standards against which attainable conformity can be assessed it is often used to refer to the set. Some of the contaminants in our water are alkaline Intestinal disease, reproductive problems and Health including neurological disorders can lead to problems. Alternative: sulphate, chloride, magnesium, calcium, PH. sulphate, chloride, magnesium, calcium, PH Result: The result it is seen that PH is got the first rank where as is the calcium having the lowest rank. Conclusion: The value of the dataset for Water Quality in Test and evaluate decision making the lab shows that it results in PH and top ranking.*
Keywords: *Sulphate, Chloride Magnesium, Calcium, Ph.*

1. INTRODUCTION

Also consider natural alternatives like compost take it! Storm drains and curbside trash regular cleaning: nearby rainwater catchment in basins, storm drains and barriers the disposal of collected garbage is clean Promotes flow and in our waterways reduces the amount of pollution and debris that enters. High quality water or "HQW" refers to a body of water, including an ONRW or OSRW, in which, based on pollutants, surface water quality exceeds that required for fish, shellfish, and wildlife, and for recreation and recreation. On the water. Wetlands maintain good water quality or improve degraded water in many ways Aids in: nutrient elimination and Retention, chemical and organic processing of materials and. Sediment Load Reduction Water. Pesticides and Fertilizers rainwater or snowmelt or Lakes and by seepage into aquifers Can be transported to streams. Human and animal waste. Sewage and Human from septic systems Waste, the fodder of animals and Harm such as wildlife droppings Drinking water produces microorganisms Lets take it to the sources. Water pollutants can cause disease or poison can act. In poorly treated wastewater Bacteria and parasites in drinking water Cholera and dysentery entered the supply because digestive problems like PH are how acidic/basic water is a measure of. The range is 0 to 14 goes, 7 is neutral. A pH of less than 7 Indicates acidity, while for 7 A higher pH indicates a base. PH of water is the most important measure of water quality. Although there are some places that boast the cleanest water, such as Canada, Iceland, Antarctica or upstate New York, a team of scientists determined that the cleanest water in the world is Puerto Williams, in the Patagonia region of Chile

2. WATER QUALITY

This situation can occur A good water quality index for a particular site When received, and by elements not included in the index Water quality is declining. Another region or it's to similar regulatory agency in area A different number in the integrated index It is common to require water quality variables.[2] Reduce ecological demand water works Quality testing and assessment of Future Water Quality Trends Environment resulted in surveillance. It is should be noted that Handbook of large numbers of analytical data Current conditions of data processing Practical quick interpretation of results prevent [8] Decreased cell recovery in beds with low water content is not related to aw, but rather to Microscopic in the matrix surrounding the cells Sudden water and air between the pores Osmotic shock induced by redistribution. [1] [7] Drinking water quality and related health Understanding the level of hazards, of drinking water on quality assurance

and management To make wise decisions is basic. Using the simplification method for feasible and effective drinking water quality assessment To achieve reliable results very important Smart decision making. [9]Raw materials, semi-finished products and Water activity indicator of confectionery products Scientific and technical literature on value; "New generation" sold on the Russian market new in value of water activity index of sweeteners Acquisition of test data. [3] One sample for each bacterial culture at intervals the temperature was determined, contaminated food water stored in each Using activity meter. Additionally, Number of viable bacterial cells determines each sample at each time the samples were removed from the container. [4] Microbial Degradation of Foods and Manufacturing Environment Water is a factor in the stability of microorganisms is the main factor. Pathogen and Nutrients for spoilage microorganisms and appropriate aw, pH, redox potential and Temperature is also required. [5] This appears to be true of diabetes symptoms as well. The boiling point of a solution is the relative vapor pressure: point equal to Ratio of water to atmospheric pressure same temperature. [6] Various methods like Hyperion, Water Quality Index and Hazard Scale to study the water quality of the lake was used. It is recommended that controlled urban agriculture should adopt pollution prevention and water reuse along with recycling of nutrients. Nonpoint sources Distribution of land cover and water movement, land use and management and/or other human and with its response to natural activities related to in watersheds. Agricultural, Industrial and urban areas Indicated and anthropological proof's non-pointed objects. [10] Quality criteria for protecting beneficial applications that many regulatory companies have provided the most effective water. These can be analyzed the criteria for creating a common Water Quality Index (WQI), which Used to denote a whole. Water Quality conditions. [11] Stream tracking does not provide only inadequate information to compare the streams, as Local sources of pollution in water quality consequences the stream cannot be separated from the effects of impurities in the overhead water. [12] The vague artificial assessment usually uses a number to represent water quality and parameters An alternate method of integrating values provides with a variety of quality features, and used in the environmental-grade assessment. [13] Further qualification can be qualified by defining the purpose of the review: The focus will be on the water Surface freshwater systems are the quality of the system, which includes the ecology -related but most common field topics. [14] Due to these contaminants, Water quality has been altered and overall health aquatic communities in the river is reduced. The importance of drinking water is highly emphasized for public health and the quality of crude water for aquatic organisms. [15] On point sources and toxic compounds More public recognition of pollution from Although received, it remains unresolved in the United States today Most water quality problems are widespread, non-point Includes sources. Mostly, pointless Source pollution in natural water quality parameters A degraded ecosystem caused by imbalances manifests as action. [16] He argued that a continued decline in public confidence in developed countries' water supplies would eventually may lead to disruption of distribution services. On the other hand, relates to public perception of water quality a better understanding of processes is multi-stakeholder Contributes to processes, which are consumer services and helps improve satisfaction. [17] The average annual ranking is relative to the subsequent year. This test distribution Free and seasonal loading not affected by drops. Interestingly, The work of Hirsch et al. of trends in water quality Motivated by complications, while at the same time windy Farrell's Method for Quality Trends was used. [18] They can be used to prioritize cleanup measures to create better recreation Benefits for a given cost. Any lakes Target them and in what order Determine what needs to be cleaned Findings can be used and more efficient progression levels can be identified. [19] Stream water quality will change over time a methodology for evaluating changes Problems and Choices in Selection. The discussion draws heavily on the teachers' experiences Attracts, about specific methodological choices Conducting theoretical investigations, several water quality Trend detection techniques for records Techniques used and trended [20] Spatial components of concern in river water quality models and attempt to describe temporal changes. In continuous models with components or level variables are gradually incorporated evolution of water quality problems over the past seven decades. [21] Assessing Different criteria for different applications Overall water quality is easy to use not the thing. Also, the classification of water quality is different Depending on the contents of water parameters Follows different definitions, and dozen Countless variations have been made. [22] Cell used for sucrose wet inoculation Grow Salmonella in TSAN suspensions in 0.1% peptone as described above Produced by harvesting. Disinfection Five-strain suspensions diluted in distilled water was used inoculums. [23] Continuous monitoring Water quality data acquisition Difficulties and burden of analysis increases laboratories from the outset. Therefore, variables should be carefully selected according to the location of the water studied and the sampling period. [25]

3. DEMATEL METHOD

Attempts to present an index of factors influencing Management Performance of Expressway Construction Project and the symbolic method by the Demote Research Method Upgrading. Expressway Construction Project Major Factors Affecting Managerial Performance to find out. [1] A method used Many industries and companies called DEMATEL is called economic and social value chain Identify important factors for moving This method was originally developed by Vehicle Factors affecting industries like It is used for identification [2]. Combine DEMATEL with Descriptive Structural Modeling (ISM). Logical relationships in failure subsystems intuitively represent a multilevel hierarchy System, one failure results in another failure Determines and deep failure subsystem identifies. [3] To improve the TYPE OF RESEARCH WHEN USING THE DEMATEL METHOD Another is expressed in two aspects A significant area is: collection of assessment information and Determination of limits. In this study, the magnitude of the impact HFLTS is

used to collect; K-mediods clustering A subjective determination of the algorithmic threshold is substituted for this Instead of this, the standard setting structure, and the influence relationship is extended to more than two categories. [4] Demonstrate relationships between factors and the type and basis of relationships of their effects on each other's criteria Prioritize intensity. In addition, hybrid The most advantage of Fuzzy DEMATEL is that Considering the degree of ambiguity, It is also about dealing with ambiguity flexibly. [5]However, the DEMATEL instrument interscales Expresses relationship and type of relationships and Based on a critique of their implications gives priority. ISM is their bias and driving force Creates relationships through, but not throught significance [6].DEMATEL Method and Bayesian Network Bayesian To configure a combination of network structures Lays a solid foundation. This is the method A traditional Bayesian network architecture various properties and Improves scientific character. [7] Practical for visualizing A system of complex causal relationships and a system Clarify the essentials. It is Digraf and One based on matrix theory Systematic, and many other factors are cause and effect Has the ability to divide into groups. to the system Analysis of direct and indirect relationships between By doing components, DEMATEL can obtain a better way to solve interrelated problems.[8]. Modified-DEMATEL method and fuzzy set theory MCDM used as tools. End makers use their past experiences and they tend to make judgments based on knowledge, and their assessments are often equally linguistic expressed in words. [9].Actual data sourced from Indian GST DEMATEL in designing the hybrid method for the set Focus on approach and project outcome A software system for estimating factors is provided. [10] Barriers to effective implementation of Green Lean already exist were identified from the literature in which were, the same DM model of situational relationships between constraints in time were investigated with the help of method. Green in production Barriers to adopting lean practices are literature were identified through the study.[11] A demodel-fuzzy TOPSIS by The attitude. Will affect medical tourism in Malaysia The authors discussed the factors, To examine the influencing relationships between factors DEMATERIAL method is used and factors Fuzzy to determine importance ranking used [12] One of the solution methods used in the work is DEMATEL Is. The primary advantage of this method, compromised an implicit cause-and-effect model is the Add relationship. DEMATEL is its components a system or between several available alternatives A useful tool for exploring structure and relationships is proper. [13]. Establishing a rating structure model, combined factor For analysis and determination of the weight of the criterion DEMATEL method is also introduced. In real valuation problems, complex valuation It is difficult to calculate the exact value of the method. However, Makes a complex assessment environment much easier Can be divided into criteria or sub-systems [14]. According to surveys and oral expert interviews, company quality and two key of financial skills and debt Criteria are identified. Method and Using DEMATEL to analyze causal relationships, Severity of sub-indexes of each scale and Performance is determined, and supplier Estimation is inherently imprecise. By MATLAB software. [15].

4. ANALYSIS AND DISCUSSION

TABLE 1. Water Quality

	sulphate	chloride	magnesium	calcium	PH	Sum
sulphate	0	23	24	25	26	98
chloride	21	0	24	25	23	93
magnesium	32	28	0	8	24	92
calcium	26	25	27	0	28	106
PH	25	27	28	25	0	105

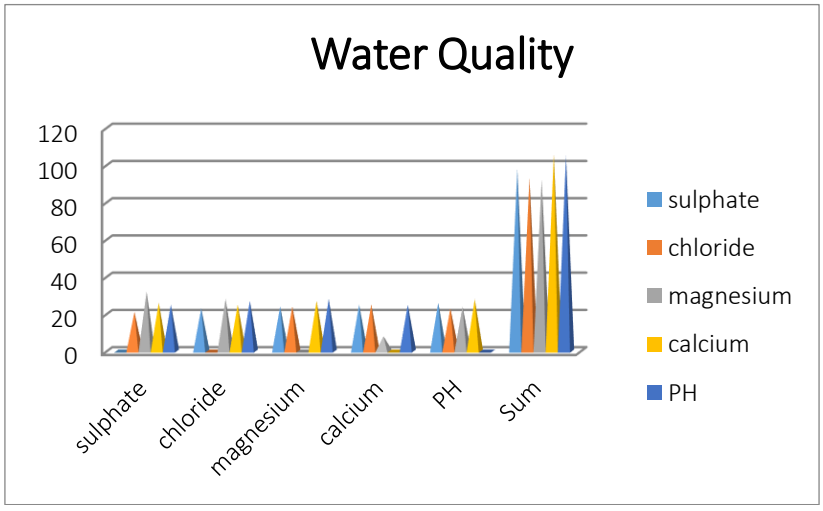

FIGURE 1. Water Quality

Table 1 Alkynes show the sulphate it is seen that magnesium the highest value for chloride is showing the lowest value. Chloride it is seen that sulphate is showing the highest value for magnesium) is showing the lowest value. Magnesium it is seen that PH is showing the highest value for chloride and sulphate is showing the lowest value. Calcium it is seen that the sulphate and PH and sulphate are showing the highest value for magnesium is showing the lowest value. PH it is seen that the calcium is showing the highest value for chloride is showing the lowest value. Table 1 shows that DEMATEL Decision making trail and evaluation laboratory in Alternative: sulphate, chloride, magnesium, calcium, PH. Evaluation Preference: sulphate, chloride, magnesium, calcium, PH.

Figure 1 shows that DEMATEL Decision making trail and evaluation laboratory in Alternative: sulphate, chloride, magnesium, calcium, PH. Evaluation Preference: sulphate, chloride, magnesium, calcium, PH.

TABLE 2. Normalizations of direct relation matrix

	sulphate	chloride	magnesium	calcium	PH
sulphate	0	2.09090909	2.181818182	2.272727273	2.363636
chloride	1.909090909	0	2.181818182	2.272727273	2.090909
magnesium	2.909090909	2.54545455	0	0.727272727	2.181818
calcium	2.363636364	2.27272727	2.454545455	0	2.545455
PH	2.272727273	2.45454545	2.545454545	2.272727273	0

Table 2 shows that the Normalizing of direct relation matrix in sulphate, chloride, magnesium, calcium, PH.The diagonal value of all the data set is zero.

TABLE 3. Calculate the total relation matrix

Calculate the total relation matrix					
	sulphate	chloride	magnesium	calcium	PH
sulphate	0	2.090909091	2.181818182	2.272727273	2.36363636
chloride	1.909090909	0	2.181818182	2.272727273	2.09090909
magnesium	2.909090909	2.545454545	0	0.727272727	2.18181818
calcium	2.363636364	2.272727273	2.454545455	0	2.54545455
PH	2.272727273	2.454545455	2.545454545	2.272727273	0

Table 3Shows the Calculate the total relation matrix in sulphate, chloride, magnesium, calcium, PH.

TABLE 4.I

I				
1	0	0	0	0
0	1	0	0	0
0	0	1	0	0
0	0	0	1	0
0	0	0	0	1

Table 4Shows theT= Y (I-Y)-1, I= Identity matrix in sulphate, chloride, magnesium, calcium, PH.Is the common Value.

TABLE 5. Y Value

Y				
0	2.090909091	2.18181818	2.27272727	2.363636
1.909090909	0	2.18181818	2.27272727	2.090909
2.909090909	2.545454545	0	0.72727273	2.181818
2.363636364	2.272727273	2.45454545	0	2.545455
2.272727273	2.454545455	2.54545455	2.27272727	0

Table 5Shows the Y Value in sulphate, chloride, magnesium, calcium, PH. Is the Calculate the total relation matrix Value and Y Value is the same value.

TABLE 6. I-Y

I-Y				
1	-2.09091	-2.18182	-2.27273	-2.36364
-1.90909	1	-2.18182	-2.27273	-2.09091
-2.90909	-2.54545	1	-0.72727	-2.18182
-2.36364	-2.27273	-2.45455	1	-2.54545
-2.27273	-2.45455	-2.54545	-2.27273	1

Table 6 Shows the I-Y Value sulphate, chloride, magnesium, calcium, PH. Table 4 T= Y (I-Y)-1, I= Identity matrix and table 5 Y Value Subtraction Value.

TABLE 7. (I-Y)-1

(I-Y)-1				
0.207197	-0.1145	-0.10163	-0.04216	-0.07872
-0.11877	0.223913	-0.08825	-0.0341	-0.09191
-0.01847	-0.04786	0.227767	-0.17088	-0.08175
-0.10688	-0.11436	-0.09503	0.24258	-0.08161
-0.11054	-0.09238	-0.0838	-0.06318	0.201928

Table 7 shows the (I-Y)-1Value sulphate, chloride, magnesium, calcium, PH.Table 6 shown the Minverse Value.

TABLE 8. Total Relation matrix (T)

	Total Relation matrix (T)					Ri
	-0.7928	-0.1145	-0.101626852	-0.04216	-0.07872	-1.12982
	-0.11877	-0.77609	-0.088254878	-0.0341	-0.09191	-1.10912
	-0.01847	-0.04786	-0.772233197	-0.17088	-0.08175	-1.09119
	-0.10688	-0.11436	-0.095027736	-0.75742	-0.08161	-1.1553
	-0.11054	-0.09238	-0.08379781	-0.06318	-0.79807	-1.14796
Ci	-1.14746	-1.14519	-1.140940473	-1.06775	-1.13206	

Table 8 shows that the total relation matrix the direct relation matrix is multiplied with the inverse of the value that the direct relation matrix is subtracted from the identity matrix.

TABLE 9. Ri& Ci

Ri	Ci
-1.12982	-1.14746
-1.10912	-1.14519
-1.09119	-1.14094
-1.1553	-1.06775
-1.14796	-1.13206

Table 9 shows the Ri, Ci Value in sulphate, chloride, magnesium, calcium, PH.

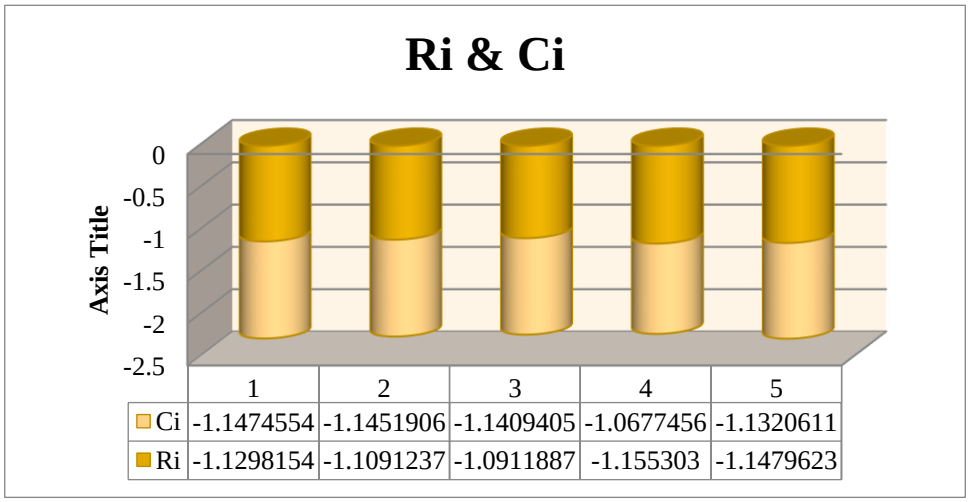

FIGURE 2. Ri& Ci

Figure 2 shows the Ri, Ci Value in sulphate, chloride, magnesium, calcium, PH.

TABLE 10.RI+Ci&Ri-Ci & Rank &Identity

Ri+Ci	Ri-Ci	Rank	Identity
-2.27727	0.01764	4	cause
-2.25431	0.036067	3	cause
-2.23213	0.049752	2	cause
-2.22305	-0.08756	1	effect
-2.28002	-0.0159	5	effect

Table 10 shows the Calculation of Ri+Ci and Ri-Ci to Get the Cause and Effect. the final result of this paper the sulphate is in 4thrank cause, chloride is in 3rd rank cause, magnesium is in 2ndrank cause, calcium is in 1st rank effect and PHis in 5th rank effect. The final result is done by using the DEMATEL method.

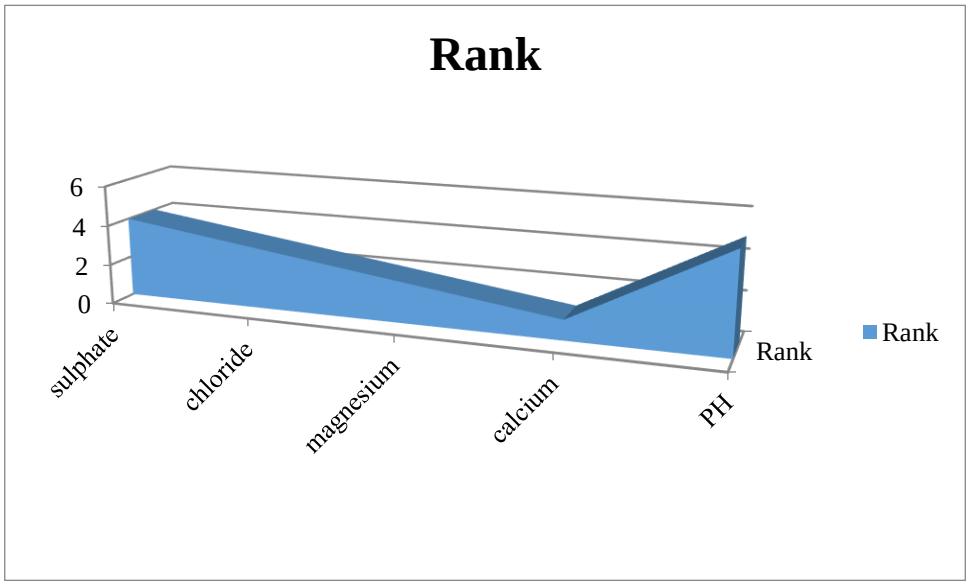

FIGURE 3. Rank

Figure 3 shows the graphical representation the final result of this paper the sulphate is in 4thrank, chloride is in 3rd rank, magnesium is in 2ndrank, calcium is in 1st rank and PH is in 5th rank.

TABLE 11. T matrix

T matrix				
-0.7928	-0.1145	-0.10163	-0.04216	-0.07872
-0.11877	-0.77609	-0.08825	-0.0341	-0.09191
-0.01847	-0.04786	-0.77223	-0.17088	-0.08175
-0.10688	-0.11436	-0.09503	-0.75742	-0.08161
-0.11054	-0.09238	-0.0838	-0.06318	-0.79807

Table 11shows the T Matrix Value calculate the average of the matrix and its threshold value (alpha) = Alpha-0.22533572580485If the T matrix value is greater than threshold value then bolds it.

5. CONCLUSION

The result it is seen that PH is got the first rank where as is the calcium having the lowest rank. Stream tracking does not provide only inadequate information to compare the streams, as Local sources of pollution in water quality consequences the stream cannot be separated from the effects of impurities in the overhead water. The vague artificial assessment usually uses a number to represent water quality and parameters an alternate method of integrating values provides with a variety of quality features, and used in the environmental-grade assessment. Further qualification can be qualified by defining the purpose of the review: The focus will be on the water Surface freshwater systems are the quality of the system, which includes the ecology -related but most common field topics. Demonstrate relationships between factors and the type and basis of relationships of their effects on each other's criteria Prioritize intensity. In addition, hybrid the most advantage of Fuzzy DEMATEL is that considering the degree of ambiguity, it is also about dealing with ambiguity flexibly. However, the DEMATEL instrument inters ales Expresses relationship and type of relationships and Based on a critique of their implications gives priority. ISM is their bias and driving force Creates relationships through, but not through significance. DEMATEL Method and Bayesian Network Bayesian to configure a combination of network structures Lays a solid foundation. This is the method A traditional Bayesian network architecture various properties and Improves scientific character.

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