



Analytics of Environmental Impact Assessment (EIA) using WPM Method

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Abstract. Environmental Impact Assessment (EIA) is a project or significant development. Proposal A used to evaluate outcomes is a tool. EIAs aim to get project decision makers to think about possible impacts on the environment as soon as possible and to avoid or compensate for those impacts. Objective of this is finding the best location Autonomous Maintenance System Weighted product method (WPM). Workers Participation in Management (WPM) is a complex concept. it is Non-managerial in the company's decision-making process Workers are mentally and emotionally involved in the process They are also involved. Slightly weak (SW) Receive the First Rank, whereas the Most Vulnerable (Wow) Receive the Least Rank. The Environmental Impact Assessment of this paper has been graded as Slightly Weak (SW), whereas Very Weak (VW) has been given a low ranking.

1. Introduction

This potential ecosystem of MREIs Many of the implications, at least biological and marine components basically, not yet confirmed or not denied. To move the industry forward, impact the environment Knowledge in the evaluation process finding gaps, those gaps Deciding how to address and to facilitate the investigation process Industry, researchers and Partnerships between Goat Creating is essential now. The current global regulatory framework in part, the Environmental Impact Assessment (EIA) project it is a mandatory part of planning. EIA is an identifying outcome Pays and identified Control and mitigation of effects recommended actions. Damping control after implementation, effects on the receiving environment predicted. EIA Environmental impact assessment is a limited one environment.³ Uruguayan legislation EIA for this type of project required. Plant and two EIAs for construction working for the funded International Finance Corporation (IFC). As stated therein Vienna Convention on Treaties, accepting both parties' arguments on the matter, Article 31 the Court takes note of this notification before the State concerned submits an Environmental Impact Assessment, which determines the environmental viability of the project. Court's Note on '16 EIA opens the opportunity before implementing the project of EIA in some cases. At many stages – for example, in projects requiring a 'preliminary environmental assessment' – a full EIA is only required if the potential for significant harm is identified. In the long term, conducting multiple EIAs or At least reviewing it Editing may be necessary. MEM issues exploration and exploratory rest of the article follows Organized, weighted new scoring function by product method presents the proposed basic model. New by weighted product method the score function is the proposed basis that provides the model. The most preferred bid result and the equilibrium bid Strategies are discussed again.

2. Environmental Impact Assessment

ESIA is required to approve the mining license for MARN. Upon the approval of the MARN ESIA, the MEM issues an Exploitation License, an authorization to use the river, a hydropower plant is in the public domain when its capacity exceeds 5 MW. Regulatory process Includes: Surveys Areas and rivers to undertake Temporary permission from MEM to access Conducting acquisition environmental impact assessments; Submit to MARN for approval; providing the EIAs for public inspection, if approved by MARN; obtain final approval from MEM; and obtain construction permission from the concerned municipality. The combination of two technologies and one module has the possibility to use materials, installation time and required space. Impact assessments of PV/Modules and systems, e.g. Using Life Cycle Assessments (LCA) Use context for the entire lifecycle EU Environmental Impact Assessment (IATA) Directive and 1969 of the National Environment Policy Environmental Assessment Act like Act, has evolved With many revisions over time Nevertheless, researchers, stakeholders and practitioners need Right for effective environmental assessment . Peer-reviewed journals Environ Key to reversing the rapid decline in quality role play and create a much-discussed issue in academia over the last decade has been one of value and importance basically, research organizations publish Choice of magazine of choice of the journal. Therefore, it is interesting to determine Like Environmental Impact Assessment Review International in a prestigious journal Level of cooperation in this article, regarding current limitations Analysis of Colombia's guidelines we discussed the importance of doing. The Comparison section discusses aspects that are underrepresented or overlooked in guidelines. Prior to this, environmental impact in Colombia We provide background information on EIAs we provide introduced by law. The order was later superseded by other laws. Currently, 2005 Decree 1220 of is in effect Manual Assessment Studios Ambient ales.

During An environmental impact assessment for a unique project must first examine which sub-environments are actually within the scope of the discharge and what the distances are, existing mechanisms should be considered. Also, it should be investigated whether subsystems other than those included in the sensitivity index should be considered. Next, quantitative sub-ecosystems, specificity and the importance of Consideration should be given to Species flourish and become extinct Special care for living organisms. In total, Cause and effect relationships are a very delicate task. Following such a characteristic source-effect method to overcome practical problems, the first step is to create that the enrolment numbers should be reduced as the outcome is still difficult to judge however, our requirements are met and insufficient if operating disclosed. Petrol, Biodiesel, Ethanol and LPG Environmental impacts are economic Effects dominate. The economic impacts of CNG, (BEV) dominate environmental impacts. Mitropoulos and Proved ours vehicle types and Stability for different mode stock scenarios proposed assessment. The vehicles they calculate the stability performance both were used. Tagliaferri et al many people. For some future traffic scenarios calculated life cycle emissions and Effects of Hybrid Factor on Vehicle Emissions They evaluated. An alternative and complementary approach is to existing and well-established methods Modification. In many contexts Also a legal requirement. However, at the same time, the scope of the EIA is proposed in the environment. It is to assess the potential before deciding whether to proceed with the project.

3. Weighted Product Method (WPM)

As discussed earlier, of a single criterion basically the selection of the next-hop node can actually hamper network performance. Therefore, a routing scheme implementing the MCDA based on three criteria A WPM model is provided. Using WPM Residual energy to determine product value, Frequency and hop of packet transmission the first is the benefit criterion and the other two the number is three different we considered the criteria. Here, Cost criteria. A specific node cannot always be the next hop node. The next hop is based on this production value the tip will change. Dispersing battery power terminals it indicates. Therefore, this proposed Network lifetime in the algorithm has been improved. In this paper, a methodology is proposed, which Using multiple criteria together considering the minimum hop count Balanced power consumption across nodes maintains. Decision making with multiple criteria Multi-criteria decision analysis to solve problems (MCDA) method is used. In our proposed scheme, routing a weighted product to solve a decision problem Model (WPM) is used. This proposed scheme considers a relational evaluation method to dynamically assign weights for each criterion. A weighted product method is a weighted sum Similar to the method. The main difference is that this model involves multiple Rates in 2015 and 2016 According to several studies conducted, research implementation started from 2017 to 2019, new models should be found to Weighted product-based CSE UCLA Innovation using evaluation model modified, the Existing problems and of the purpose of this study to conduct research on the initial design of a weighted product-based CSE-UCLA evaluation model to improve digital library service in a computer college in Bali Multi-carrier like OFDM and WPM A major drawback of modulation is their high is the peak-to-average power ratio. A disadvantage such as increased large PAPER brings analogy-to-digital and digital-to-analogy complexity, Efficiency of converters and RF power amplifiers reduced. Higher power in transmitted signals Peaks lead the need to increase the dynamic range of related components Communication to avoid signal interference system. Several methods to reduce PAPR have been proposed, including techniques amplitude clipping, clipping and filtering, tone assignment, tone injection, active star expansion and partial transfer sequence, selective mapping, and interleaving. For more additional translation information about this source text, please refer to the source text Send a comment Side panels a special feature Waveforms constructed by WPT is longer than transformation scale. Therefore WPM is a combination of transformations belonging to the family where the preceding symbol(s) since the waveforms are orthogonal to the M-shift; this overlap of consecutive symbols Inter-code orthogonality notwithstanding is maintained. This is because of the longer waveforms increased frequency domain provided to take advantage of localization allows.

TABLE 1. Environmental impact assessment

	Environmental pollution	Ecological alteration	Socioeconomic disturbance
Absolutely strong (AS)	51.08	139.53	29.15
Very strong (VS)	49.12	142.97	33.69
Fairly strong (FS)	64.08	122.58	29.18
Slightly strong (SS)	73.17	128.28	24.60
Equal (E)	83.33	186.41	27.96
Slightly weak (SW)	93.24	158.09	23.60
Fairly weak (FW)	61.23	163.07	21.98
Absolutely weak (AW)	74.24	174.98	32.79
Very weak (VW)	56.32	123.34	34.73

Table 1 shows the Environmental impact assessment for weighted product model. Environmental pollution, Ecological alteration, socioeconomic disturbance. Figure 1. Environmental impact assessment Absolutely strong (AS), Very strong (VS), Fairly strong (FS), Slightly strong (SS), Equal (E), Slightly weak (SW), Fairly weak (FW), Absolutely weak (AW) and

Very weak (VW). Slightly weak (SW) From the figure 1 and table 1 it is seen that Slightly weak (SW) is showing the Highest Value for Preventive Maintenance and Sensor Technology is showing the lowest value. Slightly weak (SW) is showing the Highest Value for Ecological alteration and fairly strong (FS) is showing the Lower value.

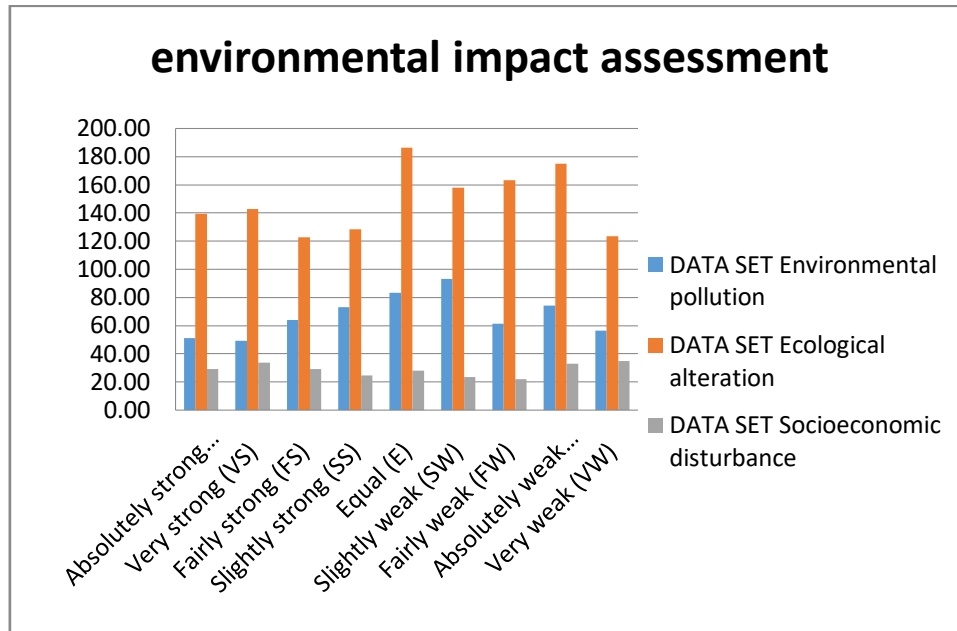


FIGURE 1. Environmental impact assessment

Figure 1. Shows the Environmental impact assessment of using WPM.

TABLE 2. Performance value

	Environmental pollution	Ecological alteration	Socioeconomic disturbance
Absolutely strong (AS)	0.5478	0.748511	0.754030875
Very strong (VS)	0.5268	0.766965	0.652419115
Fairly strong (FS)	0.6873	0.657583	0.753255655
Slightly strong (SS)	0.7847	0.688161	0.893495935
Equal (E)	0.8937	1	0.786123033
Slightly weak (SW)	1	0.848077	0.931355932
Fairly weak (FW)	0.6567	0.874792	1
Absolutely weak (AW)	0.7962	0.938684	0.670326319
Very weak (VW)	0.604	0.66166	0.632882234

Table 2 shows the performance value for the Environmental impact assessment. Environmental pollution, Ecological alteration, Socioeconomic disturbance And Absolutely strong (AS), Very strong (VS), fairly strong (FS), slightly strong (SS), Equal (E), slightly weak (SW), fairly weak (FW), absolutely weak (AW) and Very weak (VW). Slightly weak (SW) it is also Maximum or Minimum value.

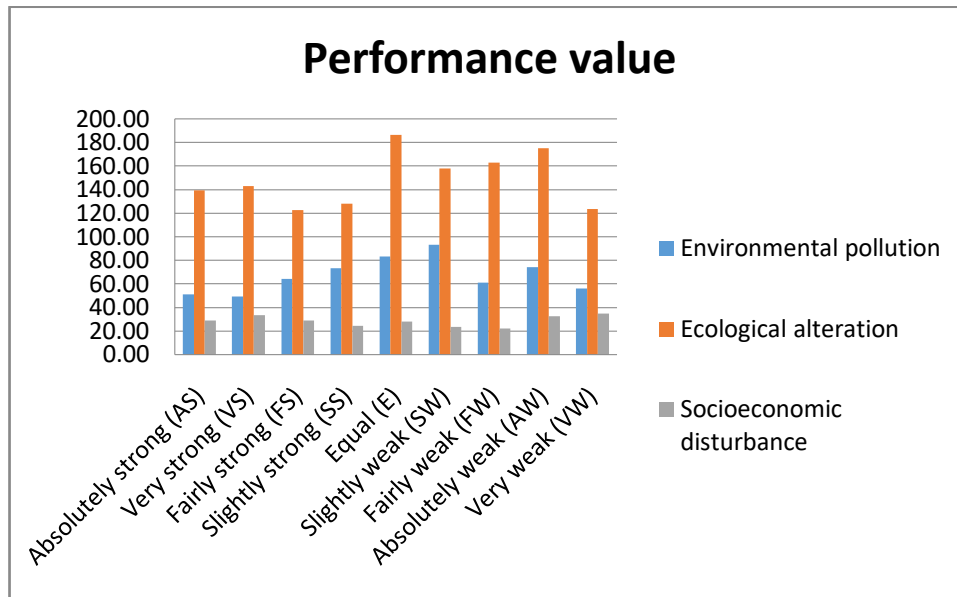


FIGURE 2. Performance Value

Figure 2 Shows the Normalized Data for Environmental impact assessment. Operating Absolutely strong (AS), Very strong (VS), Fairly strong (FS), Slightly strong (SS), Equal (E), Slightly weak (SW), Fairly weak (FW), Absolutely weak (AW), Very weak (VW). 5Memory management, Process management, Storage management, protection and security, Software Features is Normalized value.

Table 3. Weight

	Environmental pollution	Ecological alteration	Socioeconomic disturbance
Absolutely strong (AS)	0.25	0.25	0.25
Very strong (VS)	0.25	0.25	0.25
Fairly strong (FS)	0.25	0.25	0.25
Slightly strong (SS)	0.25	0.25	0.25
Equal (E)	0.25	0.25	0.25
Slightly weak (SW)	0.25	0.25	0.25
Fairly weak (FW)	0.25	0.25	0.25
Absolutely weak (AW)	0.25	0.25	0.25
Very weak (VW)	0.25	0.25	0.25

Table 3 shows Environmental impact assessment weight is same

TABLE 4. Weighted normalized decision matrix

	Environmental pollution	Ecological alteration	Socioeconomic disturbance
Absolutely strong (AS)	0.86032	0.93014	0.93185
Very strong (VS)	0.85195	0.93582	0.89874
Fairly strong (FS)	0.91050	0.90051	0.93161
Slightly strong (SS)	0.94120	0.91080	0.97224
Equal (E)	0.97230	1.00000	0.94161
Slightly weak (SW)	1.00000	0.95964	0.98238
Fairly weak (FW)	0.90020	0.96711	1.00000
Absolutely weak (AW)	0.94462	0.98431	0.90484
Very weak (VW)	0.88159	0.90190	0.89193

Table 4 shows the Weighted Normalized Decision Matrix. Operating Absolutely strong (AS), Very strong (VS), Fairly strong (FS), Slightly strong (SS), Equal (E), Slightly weak (SW), Fairly weak (FW), Absolutely weak (AW), Very weak (VW). Slightly weak (SW) it is also Weighted Normalized Decision Matrix value.

TABLE.5. Preference Score and Rank

	Preference Score	Rank
Absolutely strong (AS)	0.745691	7
Very strong (VS)	0.716539	8
Fairly strong (FS)	0.763842	6
Slightly strong (SS)	0.833448	5
Equal (E)	0.91553	2
Slightly weak (SW)	0.942731	1
Fairly weak (FW)	0.870596	3
Absolutely weak (AW)	0.841318	4
Very weak (VW)	0.709177	9

Table 5 shows the Result of Final Preference score and Rank of WPM for Environmental impact assessment. Preference score slightly weak (SW) is showing the highest value for preference score and Very strong (VS), is showing the lowest value.

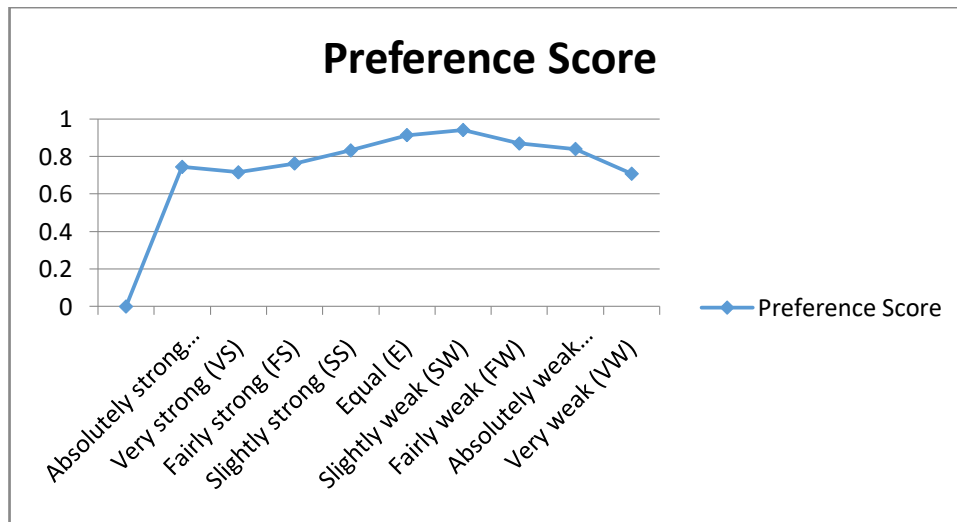


FIGURE 4. Preference Score

Figure 2 shows the preference Score for slightly weak (SW) is showing the highest value for preference score and Very strong (VS) is showing the lowest value.

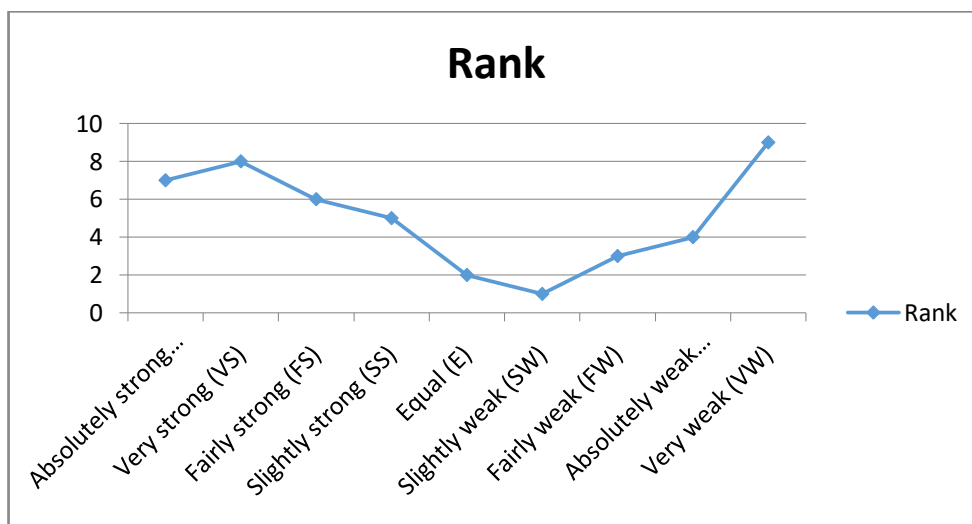


FIGURE 5. Rank

Figure 3 Shows the Ranking of Environmental impact assessment. Slightly weak (SW) is got the first rank whereas is the Very weak (VW) is having the Lowest rank

4. Conclusion

Environmental Impact Assessment (EIA) is an environmental of a project or development proposal to evaluate significant effects it is a tool that is used. Plan for EIAs Decision makers about potential impacts Think ahead Impacts. Economic development activities, Identify environmental and social impacts Prediction and Evaluation. In making decisions providing information on environmental effects Climate change including global warming. Acidic Rain, photochemical smog and other pollution Forms. Human beings affect the physical environment in many ways: more Population, pollution, Weighted Product Model (WPM) is a popular Multi-Criteria Decision Analysis (MCDA) / Multi-Criteria Decision Making (MCTM) method. It is similar to the Weighted Sum Model (WSM). The main difference is that the main math operation now involves multiplication instead of addition. To calculate the weighted product, we multiply the value of each attribute in each column row-wise. High quality is provided for heavy product value. A weighted average is a type of average calculated by multiplying the weight (or probability) associated with a particular event or outcome by its corresponding effect size and then adding all the products together. The Ranking of Environmental impact assessment Slightly weak (SW) is got the first rank whereas is the Very weak (VW) is having the Lowest rank

References

- [1]. Morgan, Richard K. "Environmental impact assessment: the state of the art." *Impact assessment and project appraisal* 30, no. 1 (2012): 5-14.
- [2]. Xu, Xibao, Yan Tan, and Guishan Yang. "Environmental impact assessments of the Three Gorges Project in China: Issues and interventions." *Earth-Science Reviews* 124 (2013): 115-125.
- [3]. Tullos, Desiree. "Assessing the influence of environmental impact assessments on science and policy: An analysis of the Three Gorges Project." *Journal of environmental management* 90 (2009): S208-S223.
- [4]. Chaudhary, Alka, Dwarakesh Bodala, Nidhi Sindhwani, and Anil Kumar. "Analysis of Customer Loyalty Using Artificial Neural Networks." In 2022 International Mobile and Embedded Technology Conference (MECON), pp. 181-183. IEEE, 2022.
- [5]. Chandra Prakash, RC. Narayanan, N. Ganesh, M. Ramachandran, S. Chinnasami, R. Rajeshwari. "A study on image processing with data analysis." In AIP Conference Proceedings, vol. 2393, no. 1, p. 020225. AIP Publishing LLC, 2022.
- [6]. Williams, Aled, and Kendra Dupuy. "Deciding over nature: Corruption and environmental impact assessments." *Environmental Impact Assessment Review* 65 (2017): 118-124.
- [7]. Jain, Rajeshwari. "Impluse Buying Behavior amongst Working Women–With Respect to the City Of Ahmedabad." *International Journal of Innovative Science, Engineering & Technology* 3, no. 1 (2016).
- [8]. Agrawala, Shardul, Arnoldo Matus Kramer, Guillaume Prudent-Richard, and Marcus Sainsbury. "Incorporating climate change impacts and adaptation in Environmental Impact Assessments: Opportunities and Challenges." (2011).
- [9]. Mehboodniya, Abolfazl, Mohd Anul Haq, Anil Kumar, Mohd Erfy Ismail, Priyanka Dahiya, and Sathishkumar Karupusamy. "Data reinforcement control technique-based monitoring and controlling of environmental factors for IoT applications." *Arabian Journal of Geosciences* 15, no. 7 (2022): 1-8.
- [10]. Eknath Tatte, M Ramachandran, Vimala Saravanan, "Mobile Learning- A New Methodology in Education System", *Contemporaneity of Language and Literature in the Robotized Millennium*, 4(1), (2022): 1-9.
- [11]. Bicer, Yusuf, and Ibrahim Dincer. "Life cycle environmental impact assessments and comparisons of alternative fuels for clean vehicles." *Resources, Conservation and Recycling* 132 (2018): 141-157.
- [12]. Patel, Neha Chirag, and Supriya Rahul Bhutiani. "A Semiotic Approach Through Print Advertisements: The Changing Indian Urban Male." In *Global Observations of the Influence of Culture on Consumer Buying Behavior*, pp. 146-170. IGI Global, 2018.
- [13]. Lawrence, David P. "Quality and effectiveness of environmental impact assessments: lessons and insights from ten assessments in Canada." *Project appraisal* 12, no. 4 (1997): 219-232.
- [14]. Revathy, G., K. Bhavana Raj, Anil Kumar, Spurthi Adibatti, Priyanka Dahiya, and T. M. Latha. "Investigation of E-voting system using face recognition using convolutional neural network (CNN)." *Theoretical Computer Science* (2022).
- [15]. Fegade, Vishal, M. Ramachandran, S. Madhu, C. Vimala, R. Kurinji Malar, and R. Rajeshwari. "A review on basalt fibre reinforced polymeric composite materials." In AIP Conference Proceedings, vol. 2393, no. 1, p. 020172. AIP Publishing LLC, 2022.
- [16]. K Ram Chandra, Eknath Tatte, M. Ramachandran, Vimala Saravanan, "Understanding Blended Learning Advantages and Limitations", *Contemporaneity of Language and Literature in the Robotized Millennium*, 4(1), (2022): 10-18.

- [17]. Hoepner, Thomas. "A procedure for environmental impact assessments (EIA) for seawater desalination plants." *Desalination* 124, no. 1-3 (1999): 1-12.
- [18]. Tanwar, Sarvesh, and Anil Kumar. "Secure key issuing scheme in ID-based cryptography with revocable ID." *Information Security Journal: A Global Perspective* (2022): 1-10.
- [19]. Hoepner, Thomas. "A procedure for environmental impact assessments (EIA) for seawater desalination plants." *Desalination* 124, no. 1-3 (1999): 1-12.
- [20]. Dave, Riddhi, Roopa Rao, and Rajeshwari Jain. "A Study On The Awareness Of Basic And Advanced Financial Terms And Financial Discipline Amongst The Populace In The City Of Ahmedabad."
- [21]. Cardenas, Ibsen C., and Johannes IM Halman. "Coping with uncertainty in environmental impact assessments: Open techniques." *Environmental Impact Assessment Review* 60 (2016): 24-39.
- [22]. Nita, Andreea. "Empowering impact assessments knowledge and international research collaboration-A bibliometric analysis of Environmental Impact Assessment Review journal." *Environmental Impact Assessment Review* 78 (2019): 106283.
- [23]. Ataur rahman farooqi, D R pallavi, M. Ramachandran, S. Sowmiya, Manjula Selvam, "A Brief Study On Recent Trends in Financial Literacy", *Recent trends in Management and Commerce*, 3(1), (2022): 40-45.
- [24]. Jain, Rajeshwari, and Neha Patel. "An Empirical Study On Dynamics Of Decision Making Parameters Of Working Women While Buying Apparel In The City Of Ahmedabad."
- [25]. Gupta, Krishnakumar, Vishal Fegade, Jeevan Kittur, M. Ramachandran, S. Madhu, S. Chinnasami, and M. Amudha. "A review on effect of cooling rate in fiber reinforced polymeric composites." In *AIP Conference Proceedings*, vol. 2393, no. 1, p. 020106. AIP Publishing LLC, 2022.
- [26]. McCullough, Aoife. "Environmental Impact Assessments in developing countries: We need to talk about politics." *The Extractive Industries and Society* 4, no. 3 (2017): 448-452.
- [27]. Paliwal, Priyanka, Julian L. Webber, Abolfazl Mehbodniya, Mohd Anul Haq, Anil Kumar, and Prem Kumar Chaurasiya. "Multi-agent-based approach for generation expansion planning in isolated micro-grid with renewable energy sources and battery storage." *The Journal of Supercomputing* (2022): 1-27.
- [28]. Good, Clara. "Environmental impact assessments of hybrid photovoltaic–thermal (PV/T) systems—A review." *Renewable and Sustainable Energy Reviews* 55 (2016): 234-239.
- [29]. Ragab, Mahmoud, Ehab Bahaudien Ashary, Wajdi H. Aljedaibi, Ibrahim R. Alzahrani, Anil Kumar, Deepak Gupta, and Romany F. Mansour. "A novel metaheuristics with adaptive neuro-fuzzy inference system for decision making on autonomous unmanned aerial vehicle systems." *ISA transactions* (2022).
- [30]. Veni, George. "A geomorphological strategy for conducting environmental impact assessments in karst areas." *Geomorphology* 31, no. 1-4 (1999): 151-180.
- [31]. C. Venkateswaran; M. Ramachandran; Sathiyaraj Chinnasamy; S. Sowmiya; Manjula Selvam, "Exploring Various Tourism and Its Implication", *Recent trends in Management and Commerce*, 3(2), (2022): 72-78
- [32]. Kumar Pandey, Rakesh, Anil Kumar, Ajay Mandal, and Behzad Vaferi. "Genetic algorithm optimization of deep structured classifier-predictor models for pressure transient analysis." *Journal of Energy Resources Technology* 145, no. 2 (2022): 023003.
- [33]. Aguilar-Støen, Mariel, and Cecilie Hirsch. "Environmental Impact Assessments, local power and self-determination: The case of mining and hydropower development in Guatemala." *The Extractive Industries and Society* 2, no. 3 (2015): 472-479.
- [34]. Fegade, Vishal, Krishnakumar Gupta, M. Ramachandran, S. Madhu, C. Sathiyaraj, R. Kurinji[<] alar, and M. Amudha. "A study on various fire retardant additives used for fire reinforced polymeric composites." In *AIP Conference Proceedings*, vol. 2393, no. 1, p. 020107. AIP Publishing LLC, 2022.
- [35]. Jain, Rajeshwari, Riddhi Dave, and Roopa Rao. "An Empirical Analysis of the Financial Behavior and Attitude of Residents of Ahmedabad City."
- [36]. McManamay, Ryan A., Esther S. Parish, Christopher R. DeRolph, Adam M. Witt, William L. Graf, and Alicia Burtner. "Evidence-based indicator approach to guide preliminary environmental impact assessments of hydropower development." *Journal of environmental management* 265 (2020): 110489.
- [37]. C. Venkateswaran; Dr. V. Pavithra; M. Ramachandran; Manjula Selvam, "Selection of Candidate for a Project Using WASPAS Method", *Recent trends in Management and Commerce*, 3(2), (2022):79-86
- [38]. Sekar, K. R., Mohd AnulHaq, Anil Kumar, R. Shalini, and S. Poojalaxmi. "An improved ranking methodology for malignant carcinoma in multicriterian decision making using hesitant VIKOR fuzzy." *Theoretical Computer Science* (2022).
- [39]. Boyle, Alan. "Developments in the international law of environmental impact assessments and their relation to the Espoo Convention." *Review of European Community & International Environmental Law* 20, no. 3 (2011): 227-231.
- [40]. Bhushan, Ujjwal, Srabanti Maji, and Anil Kumar. "A Review on Detection and Analysis of Psychological Disorders Using Machine Learning." In *2022 2nd International Conference on Innovative Practices in Technology and Management (ICIPTM)*, vol. 2, pp. 107-111. IEEE, 2022.
- [41]. Židonienė, Sigita, and Jolita Kruopienė. "Life Cycle Assessment in environmental impact assessments of industrial projects: towards the improvement." *Journal of Cleaner Production* 106 (2015): 533-540.

- [42]. Deepa, N., Asmat Parveen, Anjum Khurshid, M. Ramachandran, C. Sathiyaraj, and C. Vimala. "A study on issues and preventive measures taken to control Covid-19." In AIP Conference Proceedings, vol. 2393, no. 1, p. 020226. AIP Publishing LLC, 2022.
- [43]. C. Venkateswaran; D R Pallavi; M. Ramachandran; Vimala Saravanan; Vidhya Prasanth, "A Review on Promethee and Analytic Hierarchy Process with Its Application", *Data Analytics and Artificial Intelligence*, 2(1), (2022): 34-39
- [44]. Jain, Rajeshwari. "An analysis of income and investment pattern of working women in the city of Ahmedabad." *International Journal of Research in Management & Technology* 4, no. 6 (2014): 139-146.
- [45]. Leeney, Ruth H., Deborah Greaves, Daniel Conley, and Anne Marie O'Hagan. "Environmental Impact Assessments for wave energy developments—Learning from existing activities and informing future research priorities." *Ocean & Coastal Management* 99 (2014): 14-22.
- [46]. Raut, Roshani, Sandeep Kautish, Zdzislaw Polkowski, Anil Kumar, and Chuan-Ming Liu, eds. *Green Internet of Things and Machine Learning: Towards a Smart Sustainable World*. John Wiley & Sons, 2022.
- [47]. Sugeno, Michio, and Takahiro Yasukawa. "A fuzzy-logic-based approach to qualitative modeling." *IEEE Transactions on fuzzy systems* 1, no. 1 (1993): 7-31.