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Evaluation of Interactive Trade Using MOORA Method

Patil Aaditi Sharad

SSt College of Arts and Commerce, Maharashtra, India.

aaditipatil@sstcollege.edu.in

Abstract

Phishing websites have become more common in recent years. Online financial services pose a major threat to data security. Common spamming methods (eg, BGP redirects, bots) and how long they last, characteristics of each spamming host and spamming bonnets. Disruptions we model a multi-echelon system that experiences disruptions at any stage. An alternate location in the network should have strategies to meet the demand. Maintain strategic inventory levels and procure or transport materials across alternate locations and network does it. The fastest growing crime on the Internet. Several counter measures have been proposed over the years, one of which is SPEKE, an anti-phishing (APA) based on the Password Authenticated Key Exchange (PAKE) protocol. Features such as mutual authentication, forward secrecy are proposed. The challenge is that data analysts want to infer client-side behaviors from server data. However, a user's actions a web server must rely on incomplete data because only the region is reached. As a result of the continuous growth of users and the increase in unsolicited emails known as spam, spam filters have been introduced to detect various aspects of server-side and client-side anti-spam emails

Key Words: Interactive, MOORA

1. Introduction

International interactive trade called Industrial Cooperation Program (ICP) in the last twenty five years India has received much attention. Offset is a recent introduction in the international market an alternative marketing strategy is Offset contracts in nature are flexible and of different contract Same with time allow various combinations. The concept of offset is in most security systems and a relatively new development for governments. Expensive military contracts or extensive procurement governments and corporations as a condition of purchasing commercial contracts Industry and commerce ask for Compensation will be required compensations. All offset and processes Very complex and changing, Manpower to implement need funding. Key players If you want to join this game, this is a competitive game is between a buyer and a seller they are important Complete the process and relationship to be understood. Previous studies are From the seller's point of view Seen from only at relationships between sellers and buyers. But of the buyer Yang and Wang from perspective not paying attention to this point, the above buyer and seller Combine practices, FMS or DCS For offsets under major players and developed a new definition for financial flow. Buyer Governments, advanced fighter aircraft, warship, satellite, nuclear power plant, when purchasing valuable items like high speed transport system through FMS or TCS, Asking for some feedback from the seller. This concept is a government action, and most countries call it offset. They really are for any offset projects Capital is needed to implement what one wants to achieve. However, the authority to approve the budget rests with the purchaser or is in the seller's assembly. Buyer's government FMS or DCS fund preparation for defence contractors Converts to payment. Defence contractor through buyer's government funding for sales recovers costs associated with direct offset transactions. in Taiwan Local investment is foreign Contractors Can be engaged alone proprietorships or joint ventures with government agencies or the private sector or participate in venture capital. Technology Transfer Foreign Contractors Growth of domestic industries or transfer suitable technologies for development to local companies or institutions. Local procurement foreign contractors, locally produced products may be purchased as designated or approved by the Board of Directors. Cost of locally produced spare parts, to ensure that delivery time and quality requirements are met they are local with manufacturers can also engage in collaboration. In principle, domestically procured goods should be exported; however, within procurement plans By the Board of Directors to use Approved products For this ban Not covered. Research and development foreign contractors for R&D projects or development or improvement of domestic industries R&D centers can be established jointly with local companies or institutions. Training foreign contractors for engineering work for local firms or companies; can provide employee training programs in areas such as management, operations, Examinations and Testing, as well as services. For foreign contractors International Marketing Support local producers International Marketing, market research, Studies, strategies, Marketing recommendations, As well as pricing and drafting sales contracts and assist in expanding sales channels. As domestic firms' ability to explore international markets improves, Such measures can increase the sales of domestic companies. In a manufacturing environment, Conflicting Attributes / Based on criteria Wide range When evaluating alternatives, Decision makers should select the most appropriate AMS. For decision makers to help and guide, Simple, methodical and Logical approaches or mathematical tools are required. The objective of any selection procedure is relevant Identifying selection characteristics, This is to get the best result Linking them

with real-time requirements. However, to deal with various assessment and selection issues Now available, This article Applicability of the new MCTM method To explore character about efforts, namely the Multi-Objective Optimization Ratio Analysis (MOORA) method. In a real-time production environment For different AMS exam problems. An industrial robot, A flexible production system, A computerized numerical control machine, Work piece and shape feature, Featuring a non-traditional machining process that is well suited for rapid prototyping A combination of six illustrative examples. process and considered in this paper An automated inspection system. This time too strong, Intuitive and computationally simple, This is for decision makers Helps eliminate inappropriate alternatives, while remaining Very suitable for strengthen in examination procedures Selects an alternative. Local investment, technology transfer, local procurement, Collaboration with R&D, training, international marketing Helps to find better alternatives.

2. Interactive trade

Interactive Trading Solutions for you in a very safe and secure manner Offers a unique yet proven trading and exchange system! To develop an interactive trading strategy that plays a vital role in the global trading market, by the newly industrialized countries (NICs) offsets are used. Exporters to find future business opportunities Dependent on offset. The offset contract is mainly Contracts relating to defence and can be divided into two categories: Foreign Military Sales and Direct Commercial Selling. In an offset contract Primary players are in a developed country Provider of security related equipment a foreigner Government buyer. Since 1975, many major equipment buying countries their industrial economies Indemnity agreements are required to rise. An offset agreement is an agreement between governments Commercial sales of security products or services May be a part or may be a part. a distributor Economic satisfaction is direct, Promotes exchange of market knowledge, At the same time A distributor's social satisfaction, Positive economic satisfaction Only when already present Knowledge of markets Encourages exchange. Waller (2003) after the Cold War and the breakdown of the Warsaw Pact He believed that the security environment of the world has changed significantly in the world. Fewer mega-security suppliers chasing customers In this new environment, global defense procurement competitions Offset packages play a very important role. Interactive personality becomes especially powerful when used in a participial process, This is to evaluate options for displays Expertise of a wide range of stakeholders and acquires knowledge. Interactive visualization tools Connects to submersible laboratory facilities Collaborative planning as already explored in other case studies. Visualization of planning proposals and in indicator measurements Ability to dynamically explore real-time changes specifically information and increased participants' understanding of the project. Using such an approach in an intensive laboratory is in constant planning It is a necessary next step to evaluate its effectiveness. Apart from an interactive composition, Repeat the approach represents a process. Not only does it allow multiple stakeholders to be involved, but Maintains continuity Visions of the future and between current actions, and provides a learning process called "higher order learning". It also helps in problem definition and problem solving strategies. An adaptation process can also lead to changing the norms, Values that govern actions, Objectives and processes, Thus we expect faster Changes in urbanization can be taken into account. Provided interactive setting up the site Very difficult and High professional skills As required, A practical approach would be more efficient. If the offset transaction system is compatible with the economic development policy of the government, Maximum economic benefits can be obtained in conjunction with national economic growth. Buyer/Seller and A formal relationship buyer of opposite international status and if the seller has a legitimate relationship, Negotiating an offset contract is easy. Also, stronger than weaker countries can get more compensating benefits. This is for the seller Future business with chance will be relevant. Technical manpower skills High technical efficiency technology transfer Or more desire for R&D. From the offset contract Emerging local investment, It is in a foreign country A subsidiary or joint venture Changed to install or expand Takes capital form. As a result of the offset agreement Technology transfer of technology and abroad Conducted research and form of development can take Often, but not always, Procurement is direct in nature. R&D seller and buyer to do R&D with joint venture. Generally exported in training Manufacture of defense products or Includes maintenance related training. In defense or related industries International Marketing Assistance Marketing assistance to foreign companies.

3. MOORA method

Multi-objective optimization (or programming), Multi-criteria or multi-attribute Also known as optimization, It contains more conflicting characteristics (notes) subject to certain restrictions. It is a simultaneous upgrade process. Product and process design, Finance, Aircraft Design, Oil and Gas Industry, manufacturing industry, Automobile design etc in different fields or between of trade exchanges in the presence of Two or conflicting Objectives In making optimal decisions Many objective optimization problems are faced. Profit maximization and Reducing the price of a product; increasing efficiency and reducing vehicle fuel consumption; Increases the strength of a particular engineering component Weight loss is for multi-objective optimization problem Common examples are: Real-time production In context, Different interests and with values Decision making process by different decision makers They make it very difficult. In a decision problem, Objectives (Characteristics) Measurable to be, For each decision alternative their consequences can be measured Objective results provide a basis for comparing options, This makes it easier to choose the best (satisfying) option. Therefore, many multi-objective optimization techniques, Based on generally conflicting attributes from the set of available options To rank one or more alternatives or to choose It appears to be a suitable tool. MOORA method, First by Brauers introduced, It is a multipurpose The optimization technique is, This is in a production environment Various complications Decision making problems Solve successfully can be used. A measure of the efficiency of the i th alternative, m is of alternatives Number and n is the number of parameters count. The resulting team is then normalized, thus it becomes dimensionless and all its elements are comparable. This normalization process is a ratio system, relative to that criterion the efficiency of substitution is, represents all alternatives is compared to a class. Here, the following A simple normalization process is accepted. x_{ij} is in the interval $[0, 1]$ dimensionless number, It is in the j th scale Normalized of the i th substitution Indicates performance Type of criterion (beneficial or unbeneficial) Elements of the decision matrix

Regardless that are normalized it is worth mentioning here. Although the following normalization procedure is proposed, to a certain criterion Result Matrix Great value while having For that criterion normalized value it is too much than one Can occasionally be noticed. The maximum size value becomes less than one. As for the MOORA method, This is normalized Performance is beneficial Added to the criteria and useless criteria, Maximum criteria, to be reduced Number of criteria And all that Regarding the parameters y_i is of substitution is an estimated value. When sorting in descending order, Best alternative assessment High value. To reach the final selection of candidate alternatives Hierarchical ranking of y_i values is recommended. This time for stakeholders (decision makers), Breyers and Zavatskas demonstrated that correlations between objectives and objectives and alternatives are very robust. This method is cardinal and based on the most recent data since it is non-subjective, than existing MCDM methods it is very strong.

TABLE 1. Evaluation Parameter

C1	Technology manpower capability
C2	Formal relationship of buyer/seller and counter international status
C3	Economies of scale
C4	Combining with national economic development

Table 1 is given for an evaluation parameter. The parameter for Technology manpower capability, Formal relationship of buyer/seller and counter international status, Economies of scale, combining with national economic development.

TABLE 2. Alternatives

S1	Local investment
S2	Technology transfer
S3	Local procurement
S4	Cooperate with R&D
S5	Training
S6	International marketing assistance

Table 1 is given for an alternative. The alternatives for Local investment, Technology transfer, Local procurement, Cooperate with R&D, Training, International marketing assistance

TABLE 3. Interactive Trade

	C1	C2	C3	C4
S1	69.13	61.12	29.15	20.98
S2	76.68	73.45	41.30	33.97
S3	57.45	67.19	39.78	23.10
S4	55.12	71.49	24.60	36.79
S5	73.49	85.34	37.36	18.89
S6	49.18	72.86	19.48	32.16
	B	B	NB	NB

Table 3 show the Data set of the Local investment, Technology transfer, Local procurement, Cooperate with R&D, Training, International marketing assistance of the C1, C2, C3, C4, C5,.

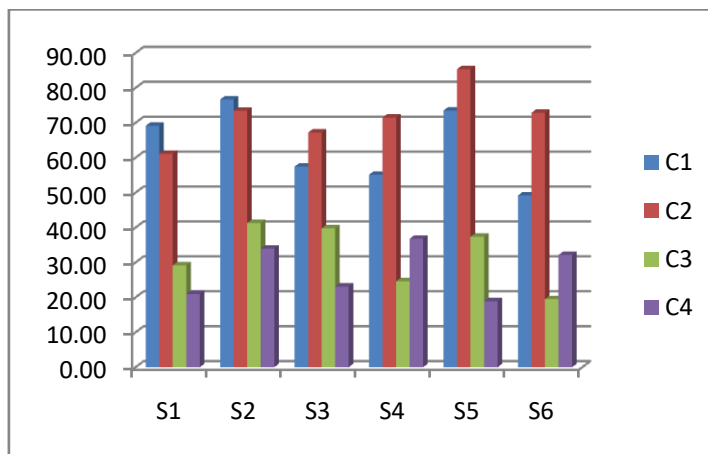


FIGURE 1. Data set for Economic feasibility MOORA method

TABLE 4. Square Values

	C1	C2	C3	C4
S1	4778.9569	3735.6544	849.7225	440.1604
S2	5879.8224	5394.9025	1705.6900	1153.9609
S3	3300.5025	4514.4961	1582.4484	533.6100
S4	3038.2144	5110.8201	605.1600	1353.5041
S5	5400.7801	7282.9156	1395.7696	356.8321
S6	2418.6724	5308.5796	379.4704	1034.2656
SUM(S1:S6)	24816.9487	31347.3683	6518.2609	4872.3331

Table 3 shows the Data set of the Square values of the data set and sum of S1 to S6 Square values.

TABLE 5. Normalized Data

	C1	C2	C3	C4
S1	0.4388	0.3452	0.3611	0.3006
S2	0.4868	0.4149	0.5115	0.4867
S3	0.3647	0.3795	0.4927	0.3309
S4	0.3499	0.4038	0.3047	0.5271
S5	0.4665	0.4820	0.4627	0.2706
S6	0.3122	0.4115	0.2413	0.4607

Table 4 shows the data from which the normalized data is calculated from the data set value is divided by the sum of the square root of the column value. It is the Normalization of Data set of the Local investment, Technology transfer, and Local procurement; cooperate with R&D, Training, and International marketing assistance of the C1, C2, C3, and C4.

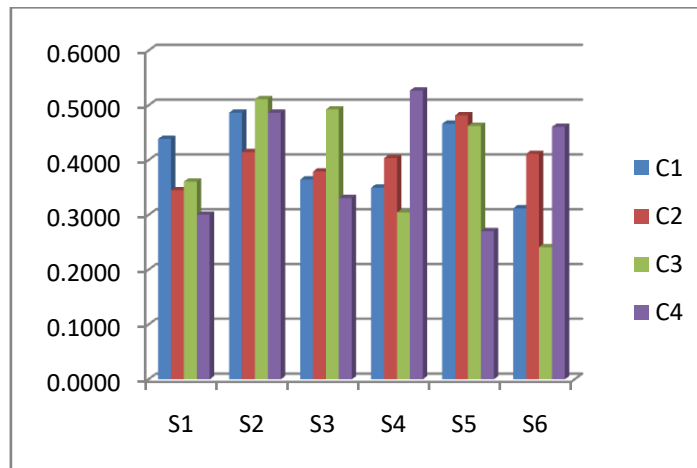


FIGURE 2. Normalized Data

Figure 2 shows the data from which the normalized data is calculated from the data set value is divided by the sum of the square root of the column value.

TABLE 6. Weight

	C1	C2	C3	C4
S1	0.25	0.25	0.25	0.25
S2	0.25	0.25	0.25	0.25
S3	0.25	0.25	0.25	0.25
S4	0.25	0.25	0.25	0.25
S5	0.25	0.25	0.25	0.25
S6	0.25	0.25	0.25	0.25

Table 3 shows the weight of the data set the weight is equal for all the value in the set of data in the table 1. The weight is multiplied with the previous table to get the next value.

TABLE 7. Weighted Normalized Decision Matrix

	C1	C2	C3	C4
S1	0.1097	0.0863	0.0903	0.0751
S2	0.1217	0.1037	0.1279	0.1217
S3	0.0912	0.0949	0.1232	0.0827
S4	0.0875	0.1009	0.0762	0.1318
S5	0.1166	0.1205	0.1157	0.0677
S6	0.0780	0.1029	0.0603	0.1152

Table 7 shows the weight of the data set the weighted normalized decision matrix.

TABLE 8. Assessment Value

S1	0.0306
S2	-0.0242
S3	-0.0199
S4	-0.0195
S5	0.0538
S6	0.0054

Table 8 shows the weighted estimation value of the data is assigned to rank values.

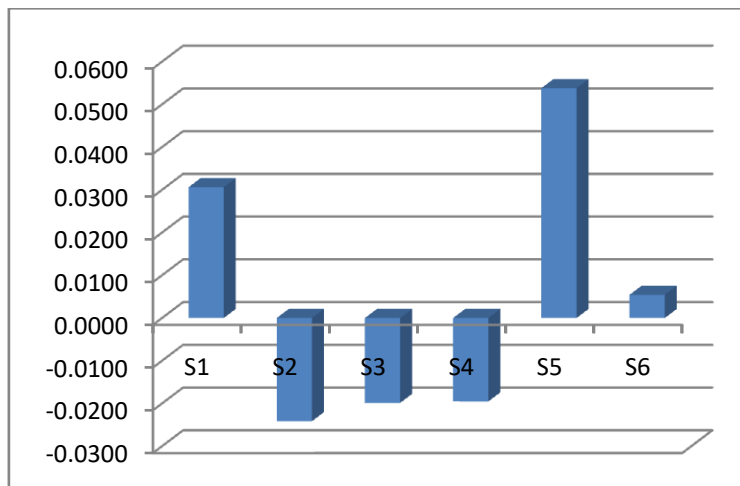


FIGURE 3. Assessment value

Figure 3 shows that the assessment value. S1 and S5 is positive values, S2, S3 and S4 negatives values.

TABLE 9. Rank

Local investment	2
Technology transfer	6
Local procurement	5
Cooperate with R&D	4
Training	1
International marketing assistance	3

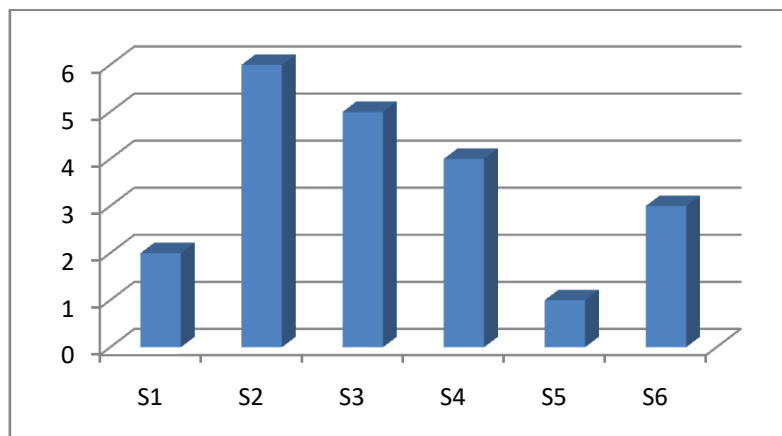


FIGURE 4. Ranking

Table 9 shows that the Training is in 1st rank and Technology transfer are last rank. Figure 4 shown in ranking.

4. Conclusion

The offset is a dynamic and Since the process is complex, In making offset policy decisions The influencing factors are political, economic, Technology and diplomatic relations And they are intertwined. In view of the evaluation criteria, Many literatures consider the MCDM model, are proposed with independent conditions for the final goal or different formats They evaluate its decision-making framework with various possible options. When the assumptions are parameter independence and a problem of linear hierarchy, In Decision Making Problems In dealing with multi-probability MCDM This could be a turning point. However, the MOORA method is easy to use. So, work with MOORA to solve dependency and feedback issues The author proposed the MCDM model, and It helps the decision makers to take optimal decision. On the other hand, between the complicating factors by establishing IR A problem of causality One of the scales used for measurement is MOORA. Therefore, the systematic and objective assessment model is more accurate MOORA is a great contribution to reflect. In other words, than traditional method to solve MCDM problem The MOORA research method is most suitable. however, Installation of offset forms and the procedure by which offset agreements are signed The reality varies between cases. Therefore, in future, in order to harmonize theory and practice, Research based on case studies can be a way forward. Training ranks 1st, local investment ranks 2nd, International Marketing Assistance is in 3rd grade, Collaboration with R&D is in 4th grade, Local procurement is in 5th grade, Transfer of technology is in 6th grade.

Reference

- [1] Wang, Tsung-Cheng. "The interactive trade decision-making research: An application case of novel hybrid MCDM model." *Economic Modelling* 29, no. 3 (2012): 926-935.
- [2] de Carvalho, Ariovaldo Lopes, Carlos Henggeler Antunes, Fausto Freire, and Carla Oliveira Henriques. "A multi-objective interactive approach to assess economic-energy-environment trade-offs in Brazil." *Renewable and Sustainable Energy Reviews* 54 (2016): 1429-1442.
- [3] Grêt-Regamey, Adrienne, Enrico Celio, Thomas M. Klein, and Ulrike Wissen Hayek. "Understanding ecosystem services trade-offs with interactive procedural modeling for sustainable urban planning." *Landscape and urban planning* 109, no. 1 (2013): 107-116.
- [4] Hsiao, Y-T., and C-Y. Chien. "Optimisation of capacitor allocation using an interactive trade-off method." *IEE Proceedings-Generation, Transmission and Distribution* 148, no. 4 (2001): 371-374.
- [5] Ibrahim, Muazu, and Yakubu Awudu Sare. "Determinants of financial development in Africa: How robust is the interactive effect of trade openness and human capital?." *Economic analysis and policy* 60 (2018): 18-26.
- [6] Auld, Graeme. "Confronting trade-offs and interactive effects in the choice of policy focus: Specialized versus comprehensive private governance." *Regulation & Governance* 8, no. 1 (2014): 126-148.
- [7] Eskelinen, Petri, and Kaisa Miettinen. "Trade-off analysis approach for interactive nonlinear multiobjective optimization." *OR spectrum* 34, no. 4 (2012): 803-816.
- [8] Lo, Daniel, Taejoon Song, and G. Edward Suh. "Prediction-guided performance-energy trade-off for interactive applications." In *Proceedings of the 48th International Symposium on Microarchitecture*, pp. 508-520. 2015.
- [9] Hasan, MD Sabbir, Frederico Alvares, Thomas Ledoux, and Jean-Louis Pazat. "Investigating energy consumption and performance trade-off for interactive cloud application." *IEEE Transactions on Sustainable computing* 2, no. 2 (2017): 113-126.
- [10] Błaszczuk, Tomasz, and Maciej Nowak. "The time-cost trade-off analysis in construction project using computer simulation and interactive procedure." *Technological and economic development of economy* 15, no. 4 (2009): 523-539.
- [11] Yang, J-B., Chen Chen, and Z-J. Zhang. "The interactive step trade-off method (ISTM) for multiobjective optimization." *IEEE Transactions on Systems, Man, and Cybernetics* 20, no. 3 (1990): 688-695.
- [12] Benin, M. Aniber, B. Stanly Jones Retnam, M. Ramachandran, M. Sivapragash, and J. Edwin Raja Dhas. "Comparative study of tensile properties on Thermoplastic & Thermosetting polymer composites." *International Journal of Applied Engineering Research* 10, no. 11 (2015): 10109-10113.
- [13] Xie, Xin. "Contagion through interactive production and dynamic effects of trade." *International Economic Review* 40, no. 1 (1999): 165-186.
- [14] Rau, B. Ramakrishna, David W. L. Yen, Wei Yen, and Ross A. Towle. "The Cydra 5 departmental supercomputer: Design philosophies, decisions, and trade-offs." *Computer* 22, no. 1 (1989): 12-35.
- [15] Nishizaki, Ichiro, and Fumiko Seo. "Interactive support for fuzzy trade-off evaluation in group decision making." *Fuzzy Sets and Systems* 68, no. 3 (1994): 309-325.
- [16] Kaliszewski, Ignacy. "Using trade-off information in decision-making algorithms." *Computers & Operations Research* 27, no. 2 (2000): 161-182.
- [17] Wasik, Barbara A., and Mary Alice Bond. "Beyond the pages of a book: Interactive book reading and language development in preschool classrooms." *Journal of educational psychology* 93, no. 2 (2001): 243.
- [18] Chakraborty, Shankar. "Applications of the MOORA method for decision making in manufacturing environment." *The International Journal of Advanced Manufacturing Technology* 54, no. 9 (2011): 1155-1166.
- [19] Karande, Prasad, and Shankar Chakraborty. "Application of multi-objective optimization on the basis of ratio analysis (MOORA) method for materials selection." *Materials & Design* 37 (2012): 317-324.
- [20] Ramachandran, M., and Kanak Kalita. "Effect of coal ash as a filler on mechanical properties of glass fiber reinforced material." *International Journal of Applied Engineering Research* 9, no. 22 (2014): 14269-14277.

- [21] Gorener, Ali, Hasan Dinçer, and Umit Hacıoglu. "Application of multi-objective optimization on the basis of ratio analysis (MOORA) method for bank branch location selection." *International Journal of Finance & Banking Studies* (2147-4486) 2, no. 2 (2013): 41-52.
- [22] Gadakh, V. S., Vilas Baburao Shinde, and N. S. Khemnar. "Optimization of welding process parameters using MOORA method." *The International Journal of Advanced Manufacturing Technology* 69, no. 9 (2013): 2031-2039.
- [23] Karande, Prasad, and Shankar Chakraborty. "A Fuzzy-MOORA approach for ERP system selection." *Decision Science Letters* 1, no. 1 (2012): 11-21.
- [24] Brauers, Willem Karel M., Romualdas Ginevičius, and Valentinas Podvezko. "Regional development in Lithuania considering multiple objectives by the MOORA method." *Technological and economic development of economy* 16, no. 4 (2010): 613-640.
- [25] Mavi, Reza Kiani, Mark Goh, and Navid ZARBAKHSHNIA. "Sustainable third-party reverse logistic provider selection with fuzzy SWARA and fuzzy MOORA in plastic industry." *The International Journal of Advanced Manufacturing Technology* 91, no. 5 (2017): 2401-2418.