Empowering Research Excellence: Strategies for Publishing in WoS Q1 and Q2 Journals

25/06/2024

Assoc.Prof. Muhammet Deveci

National Defence University, Istanbul, Turkey
Imperial College London, London, UK
University College London, London, UK

Associate Editors

Editorial Board Member in SCI/SSCI Indexed Journals:

- IEEE Transactions on Intelligent Vehicles; Q1, IF:14.0
- IEEE Transactions on Emerging Topics in Computational Intelligence; Q1, IF:5.3
- Information Sciences (Elsevier); Q1, IF:8.1
- Applied Soft Computing (Elsevier); Q1, IF:8.7
- Expert Systems with Applications (Elsevier); Q1, IF:8.5
- Engineering Applications of Artificial Intelligence (Elsevier); Q1, IF:8.0
- Neural Computing and Applications (Springer);Q1, IF:6.0
- Artificial Intelligence Review (Springer); Q1, IF: 12.0

Outline

- Rules to be Considered in Article Writing
- Journal Selection
- Journal Format
- Checking Plagiarism
- ChatGPT and ethical issues
- Publishing tips

Rules to be Considered in Article Writing

VSB TECHNICAL UNIVERSITY OF OSTRAVA

- The most critical points in an article
  - Title
  - Abstract
  - Introduction
  - Literature review (Research Gaps)
  - Methodology
  - Results and discussion
  - Conclusion

IEEE

NON SOLUS
ELSEVIER

Springer

VSB TECHNICAL UNIVERSITY OF OSTRAVA

Title

- The title of the article should be hot
- Title is the most important factor **affecting citations**
- The title should be Max 20 words, but the average is generally desired to be 12 words.
  - The title should summarize the whole article
  - No abbreviation/ Acronyms in the title

IEEE

NON SOLUS
ELSEVIER

Springer

ScienceDirect

Journals & Books

Muhammet Deveci MD

Brought to you by: UCL Library Services

Engineering Applications of Artificial Intelligence

Supports *open access*

12.3 CiteScore

8 Impact Factor

Articles & Issues | About | Publish | Order journal | Search in this journal | Submit your article | Guide for authors

IFAC
INTERNATIONAL FEDERATION OF AUTOMATIC CONTROL

About the journal

The International Journal of Intelligent Real-Time Automation
A journal of IFAC, the International Federation of Automatic Control

ScienceDirect

Journals & Books

Muhammet Deveci MD

Brought to you by: UCL Library Services

Applied Soft Computing

Supports *open access*

14.3 CiteScore

8.7 Impact Factor

Articles & Issues | About | Publish | Order journal | Search in this journal | Submit your article | Guide for authors

VSB TECHNICAL UNIVERSITY OF OSTRAVA

Abstract

- The abstract tells the reader what the research is about,
- which methods are used and
- What is your **novelty** and contributions
- It should explain what was found.

IEEE

ELSEVIER

Springer

Abstract

VSB TECHNICAL UNIVERSITY OF OSTRAVA

The ideal summary should include:

- The purpose of the research should be defined
- Research metods should be determined
- The main results of the study should be summarized
- The **effectiveness of the proposed** model should be explained
- The abstract should be between 150 and 200 words
- It should not contain mathematical representations or equations.
- Keywords- should generally be a maximum of 6 and should be impressive.

IEEE

NON SOLUS

ELSEVIER

Springer

Abbreviation

VSB TECHNICAL UNIVERSITY OF OSTRAVA

- Abbreviations should be defined if they appear first time

- If the abbreviation is well established in the field (for example, IT for Information Technology) definition is not necessary. Remember, excessive use of abbreviations reduces readability.

IEEE

ELSEVIER

Springer

Engineering Applications of Artificial Intelligence 127 (2024) 107242

Contents lists available at ScienceDirect

Engineering Applications of Artificial Intelligence

journal homepage: www.elsevier.com/locate/engappai

Accelerating the integration of the metaverse into urban transportation using fuzzy trigonometric based decision making

Muhammet Deveci [a,b,c,*], Dragan Pamucar [d,e,f,g], Ilgin Gokasar [h,**], Luis Martinez [i], Mario Köppen [j], Witold Pedrycz [k,l,m]

[a] Department of Industrial Engineering, Turkish Naval Academy, National Defence University, 34940 Tuzla, Istanbul, Turkey
[b] The Bartlett School of Sustainable Construction, University College London, 1-19 Torrington Place, London, WC1E 7HB, UK
[c] Department of Electrical and Computer Engineering, Lebanese American University, Byblos, Lebanon
[d] College of Engineering, Yuan Ze University, Taiwan
[e] Department of Computer Science and Mathematics, Lebanese American University, Byblos, Lebanon
[f] Department of Operations Research and Statistics, Faculty of Organizational Sciences, University of Belgrade, 11000, Belgrade, Serbia
[g] School of Engineering and Technology, Sunway University, Selangor, Malaysia
[h] Department of Civil Engineering, Bogazici University, 34342, Bebek, Istanbul, Turkey
[i] Department of Computer Sciences, University of Jaén, Jaén, 23071, Spain
[j] Graduate School of Computer Science and Systems Engineering, Kyushu Institute of Technology, 820-8502, Iizuka, Japan
[k] Department of Electrical and Computer Engineering, Faculty of Engineering, University of Alberta, 9211 116, Street NW, Edmonton, Alberta, T6G 1H9, Canada
[l] Systems Research Institute, Polish Academy of Sciences, 00-901 Warsaw, Poland
[m] Istinye University, Faculty of Engineering and Natural Sciences, Department of Computer Engineering, Sarıyer, Istanbul, Türkiye

ARTICLE INFO

Keywords:
Urban transportation
Metaverse
Fuzzy FUCOM
Multi-criteria decision making
Fuzzy trigonometric weighted assessment

ABSTRACT

Metaverse is defined as a fictional universe that could serve as a simulation environment of reality. Beginning in the past with games, it becomes increasingly integrated into human life as time passes. Metaverse usage is inevitable in every aspect of life. One of its potential application areas could be urban transportation. A novel fuzzy trigonometric based on the combination of the Full Consistency Method (FUCOM) and Combined Compromise Solution (CoCoSo) is proposed to rank three alternatives with twelve criteria under four major aspects: managerial, safety, user, and urban mobility. In the first stage, fuzzy FUCOM methods are used to calculate the weights of the criteria. In the second stage, the fuzzy trigonometric based CoCoSo method is applied to evaluate and rank the alternatives. The proposed model enables the nonlinear processing of complex and uncertain information using fuzzy trigonometric functions. The findings demonstrate focusing on a particular age group can make it easier to integrate the metaverse with urban transportation. The findings of this study have the potential to serve as a guide for decision-makers. The metaverse-based applications could be started by policymakers, which is a promising opportunity with potential boundaries beyond human comprehension making this statement weaker.

1. Introduction

Recently, the metaverse has advanced, and it is rapid growth will be anticipated. The term METAVERSE, combining the prefix "meta" (implying transcending) with the word "universe," refers to a hypothetical synthetic environment connected to the physical world (Lee et al., 2021). It can be characterized as a made-up world that can mimic the real one. Many examples, particularly in the gaming industry, have emerged in recent years. Examples include Second Life (2003) and Half-Life: Alyx (2020). Interestingly, META, the parent company of Facebook, Instagram, and WhatsApp, is actively working to raise public understanding of what the "metaverse" is.

It is safe to predict that Metaverse will be the future of the Internet and modern civilization (Ramesh et al., 2022). Furthermore, the

Knowing that the metaverse has enormous potential to influence and benefit our lives, it is preferable to use it positively by integrating the metaverse into urban transportation could be a huge step forward in solving current and future problems. Even if the implementation of the imaginary world of the real world is not at the desired level, next-generation solutions are not far away given advances in computer science. The goal of this research is to support policymakers in choosing the best alternatives for urban transportation solutions by using intelligent decision support based on multi-criteria decision-making models integrated into the metaverse. Hence, this paper proposes a novel concept for MCDM in which two modules are implemented. The first module defines the weighting coefficients of the criteria and is based on the application of the fuzzy full consistency method (fuzzy FUCOM). The second one implements an original methodology for evaluating alternatives based on fuzzy nonlinear trigonometric weighted functions. Fuzzy trigonometric functions are implemented in the combined compromise solution algorithm (CoCoSo) model. The advantages and contributions of the proposed multi-criteria framework are presented below:

Abstract

VSB TECHNICAL UNIVERSITY OF OSTRAVA

The abstract should include the following keywords:

- The aim of this study is to present…..
- We propose a **novel/**
- **new model/**
- **improved/**
- **developed** or the new model is presented……
- This study **introduces/presents**…….
- The results **show/indicate** that…….

IEEE

NON SOLUS

ELSEVIER

Springer

Contents lists available at ScienceDirect

Energy

journal homepage: www.elsevier.com/locate/energy

Interval type-2 fuzzy sets based multi-criteria decision-making model for offshore wind farm development in Ireland

Muhammet Deveci [a, b], Umit Cali [c], Sadik Kucuksari [d], Nuh Erdogan [e, *]

[a] Computational Optimisation and Learning Lab, School of Computer Science, University of Nottingham, Nottingham, NG8 1BB, UK
[b] Department of Industrial Engineering, Naval Academy, National Defense University, 34940, Turkey
[c] Department of Electric Power Engineering, Norwegian University of Science and Technology, Trondheim, NO-7491, Norway
[d] Department of Technology, University of Northern Iowa Cedar Falls, IA, 50614, USA
[e] Marine and Renewable Energy Centre, University College Cork, Cork, P43 C573, Ireland

ARTICLE INFO

Article history:
Received 8 October 2019
Received in revised form
17 February 2020
Accepted 2 March 2020
Available online 6 March 2020

Keywords:
Offshore wind farm
Site selection
Levelized cost of electricity (LCOE)
Decision-making
Interval type-2 fuzzy sets
Renewable energy

ABSTRACT

Offshore wind energy takes up an important place in Ireland's renewable generation portfolio thanks to its abundant offshore wind resource. Optimal offshore site selection and developing site-specific energy policy instruments are of key importance to the success of offshore wind energy investments. In this respect, this study aims at developing a multi-criteria decision-making (MCDM) model considering technical, economic, environmental and social criteria to assess Ireland's most promising offshore wind sites in terms of their sustainable development. An interval type-2 fuzzy sets based MCDM model is developed that integrates the score function with positive and negative solutions to achieve better results. Moreover, advanced energy economic metrics such as levelized cost of electricity with higher resolution are integrated into the decision-making process to make more precise decisions. Case studies are conducted for the five of the offshore sites in development pipeline. Results are compared to those of other state-of-the-art MCDM methods. It is found that Arklow Bank-2 is the most favorable site while Sceirde is the least site. The ranking of other sites is found to be Oriel > Dublin Array > Codling Park. It is shown that the proposed approach is superior in terms of stability and implementation as compared to its counterparts.

Contents lists available at ScienceDirect

Resources Policy

journal homepage: www.elsevier.com/locate/resourpol

Rough sets based Ordinal Priority Approach to evaluate sustainable development goals (SDGs) for sustainable mining

Muhammet Deveci [a,b,*], Pablo R. Brito-Parada [a,**], Dragan Pamucar [c], Emmanouil A. Varouchakis [d]

[a] Royal School of Mines, Department of Earth Science and Engineering, Imperial College London, London SW7 2AZ, UK
[b] Department of Industrial Engineering, Turkish Naval Academy, National Defence University, 34940, Tuzla, Istanbul, Turkey
[c] Faculty of Organizational Sciences, University of Belgrade, 11000, Belgrade, Serbia
[d] School of Mineral Resources, Engineering, Technical University of Crete, Chania, Greece

ARTICLE INFO

Keywords:
Sustainable mining
Sustainable development goals
Rough sets
Multi-criteria decision making
Decision support system

ABSTRACT

The Sustainable Development Goals (SDGs) have been adopted by countries and companies, including mining companies around the world. The aim of this study is to investigate the degree of importance of the seventeen sustainable development goals (SDGs) on sustainable mining using a rough sets based decision making approach. This novel approach consists of three consecutive stages, namely a questionnaire (survey), data analyses, and SDGs classification. Firstly, a survey is conducted to receive a response from internationally experts across different countries. Each participant is asked to evaluate the importance of each SDG. Secondly, the analyses are carried out to make a distinction among groups of participants who respond similarly and discover viewpoints from the industry, academia, and non-governmental organizations. Finally, the degree of importance of each SDG for sustainable mining is found using a novel decision making approach including Ordinal Priority Approach (OPA) based on rough sets. The survey of the results indicated that for all the participants of the survey, independently of their background, the most important SDG for sustainable mining was "SDG8: Decent work and economic growth", while the one perceived as the least important was "SDG14: Life below water". The main objective of SDG8 is to promote economic growth through job opportunities and decent work for all. This in turn leads to a more sustainable, long-term economic growth. While all SDGs play an important role, the proposed rough sets based decision making method provided a rational and objective evaluation performance of their perceived priority in the mining sector.

Contents lists available at ScienceDirect

Technological Forecasting & Social Change

journal homepage: www.elsevier.com/locate/techfore

An integrated multi-criteria decision-making and multi-objective optimization model for socially responsible portfolio selection

Qun Wu [a], Xinwang Liu [a,*], Jindong Qin [b,c], Ligang Zhou [d], Abbas Mardani [e], Muhammet Deveci [f,g]

[a] School of Economics and Management, Southeast University, Nanjing, Jiangsu 211189, China
[b] School of Management, Wuhan University of Technology, Wuhan, Hubei 430070, China
[c] Research Center for Data Science and Intelligent Decision Making, Wuhan University of Technology, 430070, Hubei, China
[d] School of Mathematical Sciences, Anhui University, Hefei 230601, China
[e] Muma College of Business, University of South Florida, Tampa, FL 33813, United States
[f] The Bartlett School of Sustainable Construction, University College London, 1-19 Torrington Place, London WC1E 7HB, UK
[g] Department of Industrial Engineering, Turkish Naval Academy, National Defence University, 34940 Tuzla, Istanbul, Turkey

ARTICLE INFO

Keywords:
Socially responsible investment
Portfolio selection
Corporate social responsibility
Multi-criteria decision-making
Multi-objective optimization

ABSTRACT

The influence of socially responsible investment (SRI) has caused much attention from both institutional and individual investors in capital markets. SRI considers the corporate social responsibility (CSR) criteria of firms is becoming an emerging topic in economics and management. The aim of this paper is to develop a hybrid SRI portfolio selection model with multi-criteria decision making (MCDM) and multi-objective optimization problem (MOOP) techniques. First, a multi-dimensional evaluation criteria system containing fundamental financial indicators, CSR criteria, and stock market factors, is put forward for SRI to make the decision results more comprehensive and applicable. Second, a multi-stage MCDM decision mechanism including the affinity propagation clustering (APC) algorithm, the best-worst method (BWM), and the MULTIMOORA (Multi-Objective Optimization on the basis of a Ratio Analysis plus the full MULTIplicative form) is implemented. The APC algorithm is used for the reduction of financial indicators. The BWM is applied to determine the financial and CSR criteria weights. The MULTIMOORA method is integrated to derive the financial and CSR performance of the firms. Third, a multi-objective SRI portfolio selection model adding financial, CSR, and stock market performance is constructed, which serves as an extension of the classical mean-variance model. The compromise solution is utilized when solving the MOOP. Finally, a case study related to the medical stock investment is examined to recommend the optimal portfolio allocation for investors. Sensitivity and comparative analyses are performed to demonstrate the robustness, effectiveness, and superiority of the proposed methodology.

Contents lists available at ScienceDirect

Knowledge-Based Systems

journal homepage: www.elsevier.com/locate/knosys

A fuzzy Einstein-based decision support system for public transportation management at times of pandemic

Muhammet Deveci [a,b], Dragan Pamucar [c], Ilgin Gokasar [d], Dursun Delen [e,g], Luis Martínez [f,*]

[a] Royal School of Mines, Imperial College London, London SW7 2AZ, UK
[b] Department of Industrial Engineering, Turkish Naval Academy, National Defence University, 34940 Tuzla, Istanbul, Turkey
[c] Department of Operations Research and Statistics, Faculty of Organizational Sciences, University of Belgrade, 11000 Belgrade, Serbia
[d] Department of Civil Engineering, Bogazici University, 34342 Bebek, Istanbul, Turkey
[e] Department of Management Science and Information Systems, Spears School of Business, Oklahoma State University, Stillwater, 74078, OK, USA
[f] Department of Computer Science, University of Jaen, Jaen, Spain
[g] Department of Industrial Engineering, Faculty of Engineering and Natural Sciences, Istinye University, Istanbul, Turkey

ARTICLE INFO

Article history:
Received 25 May 2022
Received in revised form 4 July 2022
Accepted 8 July 2022
Available online 14 July 2022

Keywords:
Public transportation management
Fuzzy sets
CoCoSo
Einstein norms
Logarithmic additive function

ABSTRACT

Optimal decision-making has become increasingly more difficult due to their inherent complexity exacerbated by uncertain and rapidly changing environmental conditions in which they are defined. Hence, with the aim of improving the uncertainty management and facilitating the weighting criteria, this paper introduces an improved fuzzy Einstein Combined Compromise Solution (CoCoSo) methodology. Such a CoCoSo model improves previous CoCoSo proposals by using nonlinear fuzzy weighted Einstein functions for defining weighted sequences. In addition, it proposes a novel algorithm for determining the criteria weights based on the fuzzy logarithmic function, therefore it allows decision-makers a better perception of the relationship between the criteria, as it considers the relationships between adjacent criteria; high consistency of expert comparisons; and enables the definition of weighting coefficients of a larger set of criteria, without the need to cluster (group) the criteria. Nonlinear fuzzy Einstein functions implemented in the fuzzy Einstein CoCoSo methodology enable the processing of complex and uncertain information. Such characteristics contribute to the rational definition of compromise strategies and enable objective reasoning when solving real-world decision problems. The efficiency, effectiveness, and robustness of the proposed fuzzy Einstein CoCoSo model are illustrated by a case study to create a conceptual framework to evaluate and rank the prioritization of public transportation management at the time of the COVID-19 pandemic. The results reveal its good performance in determining the transportation management systems strategy.

Introduction

VSB TECHNICAL UNIVERSITY OF OSTRAVA

The ideal introduction should include:

The introduction should start with a strong first sentence, begin with generalizations, gradually narrow the focus and highlight contributions.

- Listing literature without explanation should be avoided.
- The purpose of the research should be stated
- The introduction should highlight the novelty and motivation of the work.
- The **main contribution** to the existing literature should be noted

IEEE

ELSEVIER

Springer

Introduction

VSB TECHNICAL UNIVERSITY OF OSTRAVA

- The introduction should answer these questions:
  - Why is the research topic important? Or why are you working on this topic?
  - What has been studied so far?
  - What is the feature of the method you recommend?
  - What are your contributions?

Introduction

VSB TECHNICAL UNIVERSITY OF OSTRAVA

The ideal introduction should include:

- The objective/aim/goal of this study is to investigate…….
- The **motivation** of the study……
- The **main contributions of the study** are as follows:…
  - Xxxxxx
  - Yyyyyy
  - Zzzzzz
- The **advantage** of the proposed model/used model…..

IEEE

ELSEVIER

Springer

climate change and epidemics such as COVID-19 have been observed to have a significant impact on freight transportation, even bringing these operations to a halt (Gonzalez et al., 2022). Implementation of freight fluidity measuring systems appears potential as a means of mitigating the effects of such events while maintaining full operational efficiency.

Freight transportation authorities and decision-makers are looking for ways to improve the fluidity of their operations. The companies do their research into the present status of freight fluidity measurement applications. One of the most commonly utilized approaches is the collecting of data, such as GPS data, from each mode of operation (Cedillo-Campos et al., 2019). Shipping ports are another data source used to gauge system fluidity, and data obtained from this source is mostly used for long-term freight planning and travel demand forecasting (Asborno et al., 2020). Even if these measurement techniques appear to be effective, several new technologies are promising in terms of delivering more diverse fluidity measurement tools and assisting authorities in more efficiently improving their freight transportation systems. One example of such new technology is metaverse technology.

Blockchain technology and the Metaverse have quickly penetrated our lives in recent years. The production of digital twins, which mirror the real world in the digital verse, is one method that the Metaverse can be implemented in real life (Han et al., 2022). Creating digital twins of freight transportation agents and integrating these agents into Metaverse to track freight transportation operations and analyze freight fluidity has a lot of potential in terms of collecting diverse real-time data utilizing blockchain technology. Freight movement data gathered through the metaverse can be shared with clients in applications because data sharing can be handled using blockchain technology just as it is used for data gathering (Fan et al., 2018). For example, customers can track products being transported and purchase desired things while they are being transported, allowing enterprises to provide goods before they reach their destination, which is the warehouse. This type of solution is made possible by using freight fluidity metrics in Metaverse. Aside from Metaverse applications, another option for efficiently evaluating fright fluidity is the development of global governance of freight operations for measuring fluidity through available data.

Creating a global center for governing freight transportation concerns is a promising application in terms of collecting all data in one location and using the coupled data for overall freight fluidity measures. This type of application can greatly assist all authorities and decision-makers in optimizing their operations using accessible big data and increasing the flexibility of freight transportation. This has the potential to improve time reliability and sustainability by assigning freight transportation activities to various available and uncongested modes to reduce delays and use environmentally favorable modes of transportation.

The motivation of this research is to present novel freight fluidity measuring methods and utilize expert comments to rank them in order of their advantages. A multi-criteria decision-making tool is utilized during the procedure, and each alternative is evaluated according to the specified criteria, which are determined following a thorough literature review. The evaluation procedure is carried out by developing a questionnaire in which each possibility is asked to be evaluated on each criterion. The questionnaires are then distributed to specialists for review of the alternatives. Multi-criteria decision-making (MCDM) techniques have been successfully integrated into many real-life problems (Badi et al., 2022; Chattopadhyay et al., 2022; Bouraima et al., 2022).

This study aims to present an efficient fuzzy Dombi based MCDM model including Logarithmic Methodology of Additive Weights (LMAW) and Evaluation based on Distance from Average Solution (EDAS) (Keshavarz Ghorabaee et al., 2015) method for solving the freight fluidity measurement problem. The Dombi based LMAW (Pamucar et al., 2021) is applied for calculating the weight coefficients of the criteria. The Dombi based EDAS method is proposed for the evaluation of alternatives. The main contributions of this study are as follows:

(i) This study adds to the field by suggesting two new freight fluidity measurement applications: integrating freight operations into Metaverse for fluidity measurement and developing global governance of freight activities for fluidity measurement using existing data.
(ii) A case study is developed to serve as a foundation for the experts' evaluations, which may guide authorities and decision-makers in the transition to a more developed and advanced freight fluidity measuring system.
(iii) The proposed model enables decision-makers to better perceive the relationship between criteria, which contributes to rational reasoning and objective evaluation of alternatives.
(iv) EDAS method provides an optimistic and pessimistic evaluation of alternatives.
(v) The application of the triangular fuzzy numbers based Dombi function improved the flexibility of the traditional EDAS method
(vi) There is a scarcity of research on the integration of freight fluidity measurements with metaverse. This paper contributes significantly to the field by presenting various alternative integration approaches.
(vii) The findings of this study can be used as a guide for authorities and decision-makers who seek to carry out projects such as the alternatives in this study because they can select the most advantageous alternative over this study.

The rest of this study is built as follows: Section 2 contains a literature review on freight fluidity and freight fluidity measurement methods. The definition of the problem, alternatives, and criteria related to this study is provided in Section 3. Section 4 gives the proposed methodology of the study. The case study, results of the proposed methodology, and stability are explained in Section 5. The results and discussion is presented in Section 6. Section 7 discusses the managerial and policy implications. Finally, Section 8 provides the conclusion.

2. Literature review

There are various studies in the literature on the importance and utility of freight fluidity and freight fluidity assessment methods. As stated in different studies, efficiency, safety, and travel time reliability are important aspects of supply chains, and increasing freight fluidity means improving these aspects (Bueno-Solano et al., 2022; National Research Council Canada, 2022; Pisarski, 2016). According to a previous study, freight fluidity in sea transportation strives to boost journey time reliability and reduce supply chain end-to-end shipping expenses (Kruse et al., 2018). It is also claimed that the US Army Engineer Research and Development Center and Texas A&M Transportation Institute collaborated to implement a freight fluidity measurement system at ports to evaluate these ports' fluidity measurements in terms of oceangoing vessels. A different freight fluidity measurement application developed by the US Army Engineer Research and Development Center attempts to measure the fluidity of vessels traveling between the most heavily trafficked ports by using data such as travel information, weather conditions, directional flow currents, and so on (Mitchell et al., 2019). The goal is to identify the factors that influence trip time reliability. According to another study, efficient freight fluidity increases serviceability and predictability, which are two of the most essential quality indicators in supply chains (Swai et al., 2021). As a result, it is easy to argue that enhancing the flexibility of freight transportation is critical. To promote fluidity, freight fluidity measuring systems are required so that systems can be improved.

There are numerous real-world uses for freight fluidity measurement systems in their current state. Freight fluidity measurement is critical for authorities searching for ways to improve their freight transportation operations (Eisele et al., 2016). Because freight fluidity measurement is a performance-based evaluation, decision-makers may easily identify and rectify the system's flaws. According to a study on a freight fluidity

Literature Review (LR)

- There should be a paragraph at the end of the LR that concludes your discussion
- In this paragraph, how your work differs from other works
  - difference, **novelty**,
  - **originality** and
  - contribution to the literature should be emphasized

Literature Review (LR)

At the end of the LR, the necessity of this study should be demonstrated using one of the **following patterns**:

- The lack of investigation of …….
- None of previous papers considers…..
- To fill this gap
- To best our knowledge, no study has…

Spacecraft tracking control and synchronization: An assessment of conventional, unconventional, and combined methods

Muhammet Deveci [a,b,*], Dragan Pamucar [c], Ilgin Gokasar [d], Madjid Tavana [e,f]

2. Literature review

Spacecraft technology is a relatively new technology that has grown in importance since the twentieth century. As of the twenty-first century, this technology has become even more intense due to human curiosity to explore space and seek life on other planets. Spacecraft, like cars, trains, and engines on land, provide transportation in and out of the atmosphere. It is a problem that these spacecraft are not in a gravity environment and are exposed to meteor fragments while in transit. As a result, artificial intelligence methods are developed for these vehicles to continue operating as efficiently as possible, and non-AI methods are constantly updated. According to the research, a nonlinear control law has been proposed to avoid the obstacles that spacecraft in transit may encounter and make the formation styles most efficient. The most accurate rotation study has been carried out by developing special potential functional methods to avoid obstacles. According to one study, the simulation outputs of their proposed method resulted in advantageous flight configuration and fast-tracking results (Hu et al., 2015a).

In another study, they continued to work on position controls for one or more spacecraft. A finite-time controller was designed by considering the finite-time monitoring attitude. Hence, it has been seen that attitude synchronization is possible in finite time. It aims to reduce possible negativities by proposing a finite-time control law on the routes of spacecraft (Du et al., 2011). Gao et al. (2022) sought to improve the control performance of a straight-line convergence trajectory during rendezvous and docking missions, as well as reduce the energy consumption associated with research, and it is a method that can be used (Sun et al., 2019). Zhao et al. (2021) investigated distributed attitude synchronization for flexible spacecraft. The rotation matrix-based controller suggested is a combination of fundamental and additional patterns. Minimum learning parameter techniques are believed to increase the stability of finite time and reduce the computational overhead. Additionally, a surface with a modified sliding mode is used, which has the potential to eliminate singularity. Gao and Wang (2021) offered a fault estimation, and fault-tolerant control technique is offered as a new model. When an actuator malfunction is detected, the objective is to synchronize the follower spacecraft with the leader spacecraft. Numerical practical examples are conducted to identify the success of the model, and it is observed that the model is effective. In another study, the disrupted tracking control problem was examined by considering the disconnections experienced by spacecraft during communication. The study concluded that the tracking and estimation errors converged to zero with the proposed method, considering the Lyapunov-Krasovskii functional approach (Wang et al., 2019). Lawton and Beard (2002) proposed two control strategies have been proposed to prevent spacecraft position alignment failures in or out of earth's orbit. They have shown that it is analytically possible to prevent the problems experienced in position alignment with their proposed method. To the best of the authors' knowledge, no study has evaluated three alternative techniques, including non-AI methods, AI methods, and mixed approaches, for the tracking control and synchronization of spacecraft employing a fuzzy decision-making method.

Contents lists available at ScienceDirect

Applied Soft Computing

journal homepage: www.elsevier.com/locate/asoc

An interval type-2 fuzzy sets based Delphi approach to evaluate site selection indicators of sustainable vehicle shredding facilities

Muhammet Deveci [a,b,*], Vladimir Simic [c], Selman Karagoz [d], Jurgita Antucheviciene [e]

[a] Department of Industrial Engineering, Turkish Naval Academy, National Defence University, 34940 Tuzla, Istanbul, Turkey
[b] The Bartlett School of Sustainable Construction, University College London, WC1E 7HB, London, UK
[c] University of Belgrade, Faculty of Transport and Traffic Engineering, Vojvode Stepe 305, 11010 Belgrade, Serbia
[d] Faculty of Business and Law, School of Strategy and Leadership, Coventry University, Gosford St, CV1 5DL, Coventry, UK
[e] Department of Construction Management and Real Estate, Vilnius Gediminas Technical University, Sauletekio al. 11, LT-10223, Vilnius, Lithuania

In addition, fuzzy Delphi method studies have been used for identifying and assessing the criteria [71], prioritizing failures [72], and identify critical sustainable transportation indicators [73]. Also, IT2FSs have been applied to various decision-making problems such as electric vehicle charging station allocation [74], selection of a car sharing station [75], and the assessment of smart city projects [76].

According to the literature review, the research gaps are:

(i) The indicators of sustainable VSF location selection have not been identified and categorized before;
(ii) None of the available studies for ELV management has integrated entropy and Delphi method into a unique decision-making framework;
(iii) No IT2FS-based decision-making approach for ELV management has been applied before;

sites for a sustainable offshore wind development.

The rest of this paper is organized as follows. Section 2 presents relevant literature used in multi-criteria OWF site selection and fuzzy based decision-making models. Section 3 introduces the methodology, the site description, and the decision-making variables selected. The proposed IT2FS model is developed in Section 4. Experimental and comparison results are discussed in Section 5. Finally, Section 6 provides the concluding remarks.

2. Related work

2.1. OWF site selection

MCDM has been a common practice in offshore wind energy development planning since this process incorporates many decision criteria from various perspectives in its nature [12]. This process requires a pre-selection of eligible offshore sites based on multi-criteria site selection analysis [13]. As such, the site selection is of key importance to the success of offshore wind energy investments. Primary investigation of technical and regulatory restricted areas is first conducted to eliminate unsuitable sites [14]. Then, the site selection involves qualitative and quantitative eval-

posed a fuzzy MCDM for the evaluation of GIS based onshore wind farm site selection in the Southeast of Spain. Ayodele et al. [16] applied a multi-criteria GIS based model which includes interval type-2 fuzzy AHP for onshore wind farm site selection in Nigeria. Hofer et al. [37] conducted a study to evaluate wind farm sites using a spatial AHP approach in Stadteregion Aachen.

As in Table 1, while the type-1 fuzzy sets have been often applied to the offshore site selection problem, the interval type-2 fuzzy hybrid MCDM method which includes positive and negative ideal solutions, and relative assessment matrix has not been used in finding the best offshore site selection. The hybrid model can provide better representation of vagueness with simplified calculations. In addition, the interval type-2 fuzzy captures uncertainty better than type-1 fuzzy sets [38]. This reflects less uncertainty in decision-making assessments.

3. Methodology

The methodology used in the MCDM process includes 4 steps as shown in Fig. 1. Step-1 starts at determining evaluation criteria that turned out to be 3 main and 24 sub-criteria. Studies on the offshore site selection analysis typically relies on the generic data sets

Table 1
Overview of studies on OWF site selection analysis.

Author(s)	Study Area	Main-criteria	Sub-criteria	Number of alternatives	Method/Tool	Energy Economic Considerations
[17]	Taiwan	–	–	5	GIS	Cost benefit
[22]	North Sea	–	18	Unspecified	GIS	LCOE
[23]	Greece	–	5	10	AHP and GIS	None
[19]	South Korea	5	9	8	Multi-criteria analysis	Cost benefit
[24]	Iran	6	31	4	Fuzzy ANP, DEMATEL and ELECTRE	Cost benefit
[25]	United States	–	8	3	GIS	None
[26]	Germany	–	9	Unspecified	GIS and Ordered Weighted Averaging Method	None
[20]	China	6	22	5	Intuitionistic fuzzy ELECTRE	External Resources
[14]	Europe	6	–	3	GIS	None
[21]	South Korea	4	14	Unspecified	GIS	Cost benefit
[12]	Baltic States	3	6	15	GIS	Only Cost (OPEX/CAPEX)
[15]	Greece	3	8	12	AHP and GIS	None
[27]	China	4	10	5	Fuzzy AHP	None
[11]	Turkey	3	–	3	Multi-criteria analysis	LCOE
[13]	Turkey	–	8	55	Multi-criteria analysis	None

VSB TECHNICAL UNIVERSITY OF OSTRAVA

Research Approach

- The research approach should be clear
- Data and data collection procedure should be clear
- A flowchart should be drawn to summarize the research approach.

IEEE ELSEVIER Springer

Full length article

A three-stage methodology for initiating an effective management system for electronic waste in Turkey

Vildan Çetinsaya Özkır*, Tuğba Efendigil, Tufan Demirel, Nihan Çetin Demirel, Muhammet Deveci, Burak Topçu

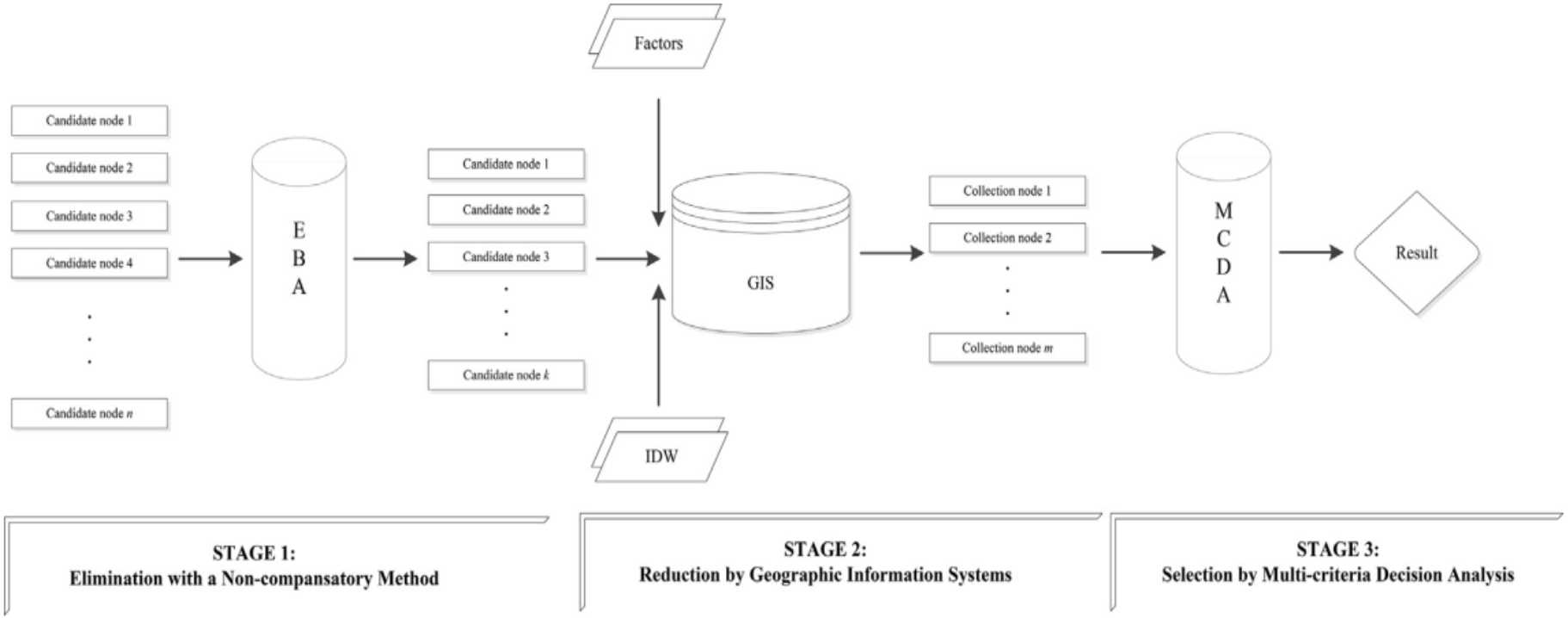


Fig. 2. Proposed three-stage methodology to determine the locations for e-waste collection campaign

Type-2 neutrosophic number based multi-attributive border approximation area comparison (MABAC) approach for offshore wind farm site selection in USA

Muhammet Deveci [a,1], Nuh Erdogan [b,c,1,*], Umit Cali [d,1], Joseph Stekli [e,1], Shuya Zhong [f,1]

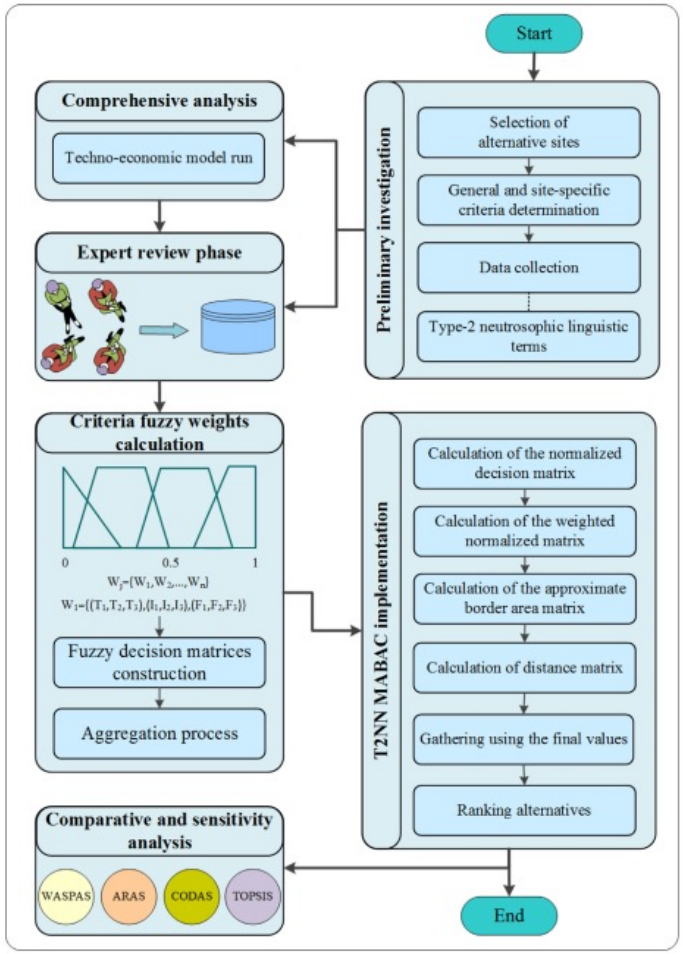


Fig. 1. Flowchart of proposed approach.

VSB TECHNICAL UNIVERSITY OF OSTRAVA

Discussion

- Authors should discuss the study's findings in detail

- It should be explained how the proposed method can be used by practitioners in real life problems. (policy implication)

IEEE

ELSEVIER

Springer

Conclusion

- Authors should summarize the overall **results of the study** in the conclusion section.
- If not mentioned in the Introduction, the advantages of the proposed method should be stated.
- Authors should discuss the limitations of the proposed method and case study.

In the conclusion section, limitations of the study and suggestions for future studies should be presented.

Contents lists available at ScienceDirect

Computers & Industrial Engineering

journal homepage: www.elsevier.com/locate/caie

Evaluation of Metaverse integration of freight fluidity measurement alternatives using fuzzy Dombi EDAS model

Muhammet Deveci [a,b,*], Ilgin Gokasar [c], Oscar Castillo [d], Tugrul Daim [e,f,*]

[a] Department of Industrial Engineering, Turkish Naval Academy, National Defence University, 34940 Tuzla, Istanbul, Turkey
[b] Royal School of Mines, Imperial College London, London SW7 2AZ, UK
[c] Department of Civil Engineering, Bogazici University, 34342 Bebek, Istanbul, Turkey
[d] Tijuana Institute of Technology, TecNM, Tijuana, Mexico
[e] Portland State University, Portland, USA
[f] Chaoyang University of Technology, Taiwan

8. Conclusion

According to the study's findings, integrating freight activities into Metaverse for measuring freight fluidity is the most advantageous alternative, while doing nothing and leaving the system as it is is the least advantageous. This study contributes to the literature by introducing new technologically advanced ways of freight fluidity measurement alternatives and by employing a novel MCDM model to advantage prioritization. The results can also serve as a guide for authorities and decision-makers seeking to improve freight fluidity.

The limitation of the study is the computational complexity of the Dombi operator. A software tool can be developed for this in future studies. In future studies, various operators such as the fuzzy Aczel-Alsina function, Einstein function, and fuzzy Hamacher for aggregation can be integrated to handle the uncertainty in the information. Also, various decision-making models such as the Ordinal Priority Approach can be used to calculate criterion weights in the proposed model. Another limitation of the study is that the metaverse is a relatively new technology with few uses, such as those proposed in the alternative. As a result, the developed metaverse fluidity measurement system's problem-free continuity may not be possible in the short run. Furthermore, there is a lack of solid data privacy policies governing data acquired and used in the metaverse. Because the metaverse's main value is the simplicity of data collecting, a lack of a policy in this area may cause problems in the short term. In addition, the number of experts in this field is another limitation.

In future investigations, the choices and criteria of the study might be varied and extended in quantity to increase the study's adaptability. In addition, a pilot region can be chosen and the alternative implemented in the area to assess the real-life applicability and real-life advantages of the most favorable alternative, which is integrating freight activities into Metaverse for measuring fluidity. The results of the pilot project may provide a greater understanding of the alternative's potential if it is implemented on a bigger scale.

Limitations

Future works

ELSEVIER

IEEE

Springer

VSB TECHNICAL UNIVERSITY OF OSTRAVA

References

- References must be sufficient and up to date.
- Each article should contain approximately **30-50** references from academic journals.
- 25-30% of the sources should be current and published in the **last two or three years**.
- Also check the conference references. If do not reference 2024 and 2023, they are likely outdated and more than two years old.

IEEE

ELSEVIER

Springer

VSB TECHNICAL UNIVERSITY OF OSTRAVA

References

- Whichever journal the article is planned to be submitted to, 3-4 references must be given from that journal.

- **Reference style** should be arranged according to the journal

IEEE

ELSEVIER

Springer

VSB TECHNICAL UNIVERSITY OF OSTRAVA

Equations

- Equations should be numbered consecutively in parentheses.

IEEE

ELSEVIER

Springer

VSB TECHNICAL UNIVERSITY OF OSTRAVA

Tables and Figures

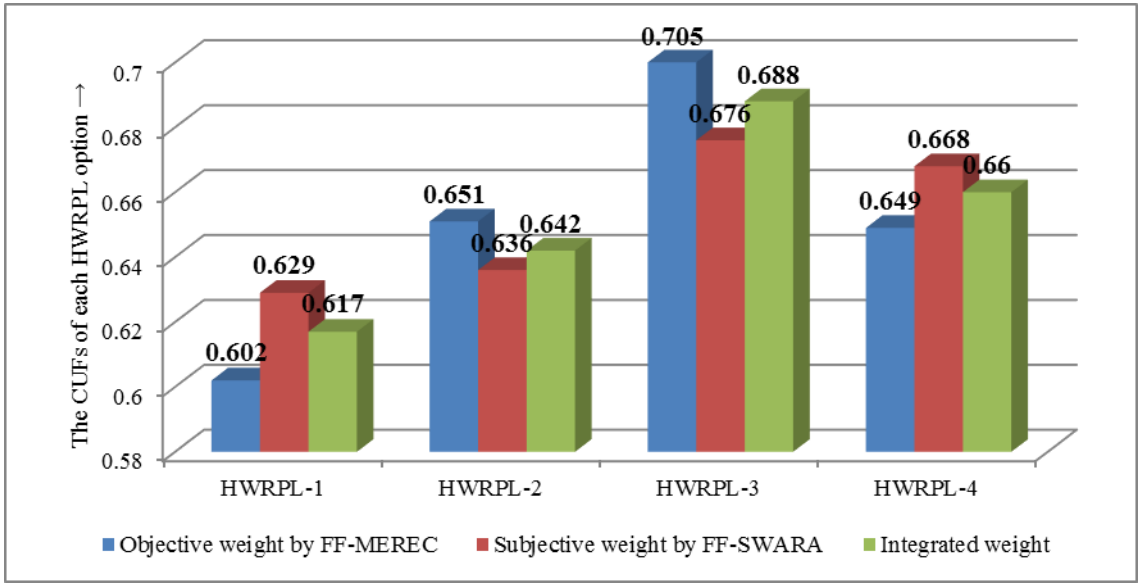
- Figures and Tables should be descriptive.
- Meaningful titles should be placed directly below the figure and above the table.
- Figures should be of high quality with good resolution.

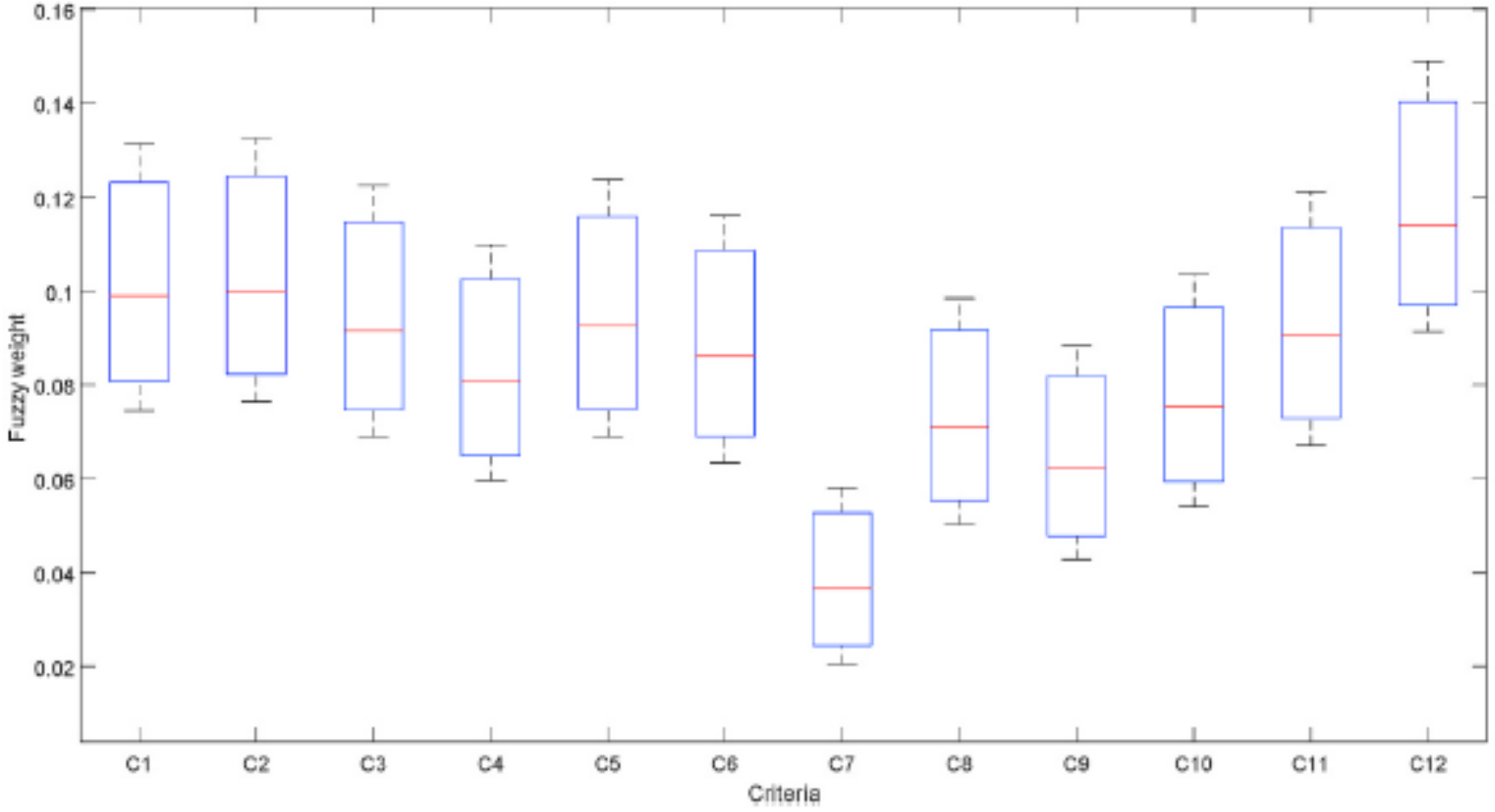
IEEE

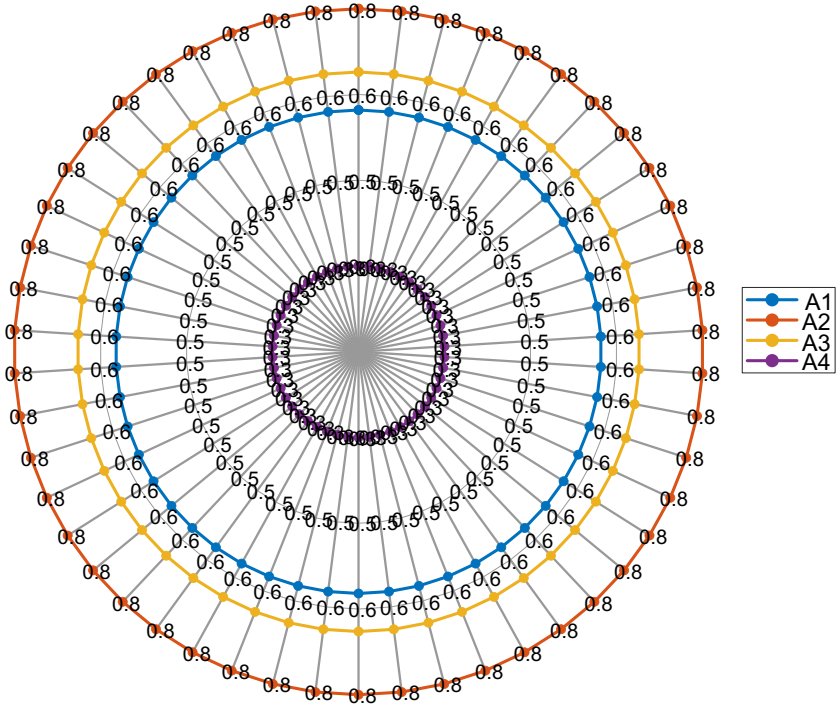
ELSEVIER

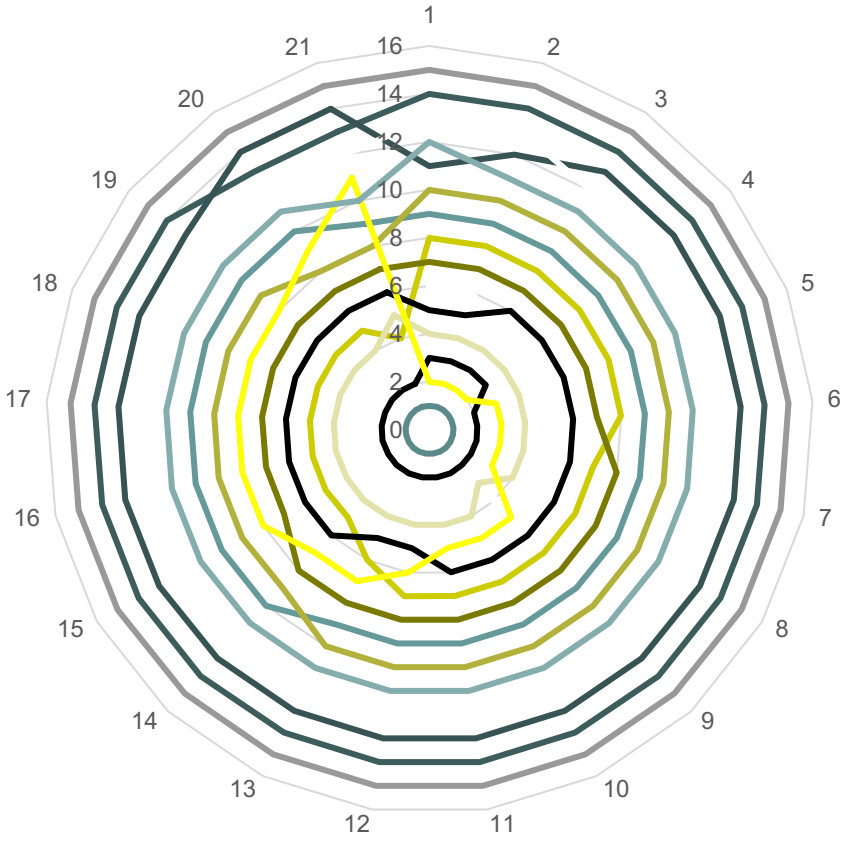
Springer

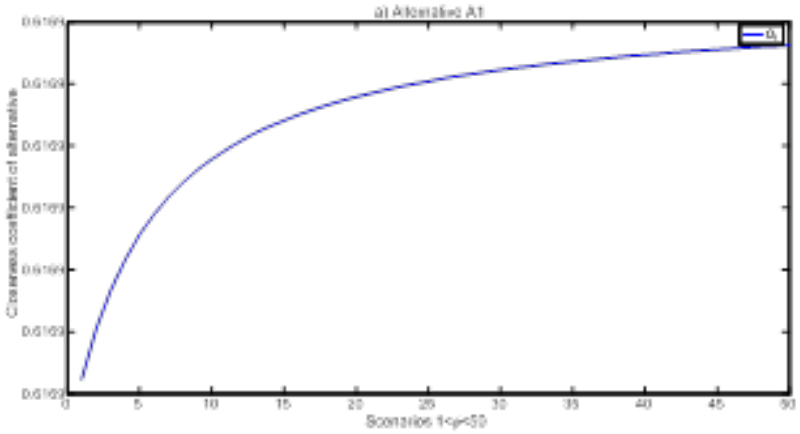
Example

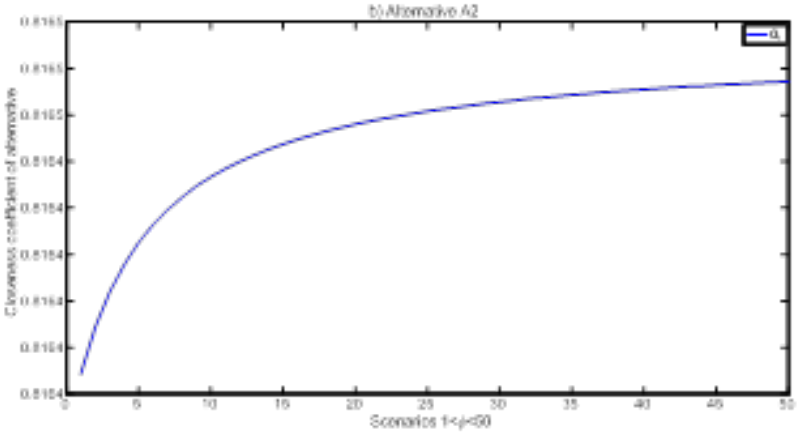

The CUFs of each HWRPL option →
0.7
0.68
0.66
0.64
0.62
0.6
0.58
0.602
0.629
0.617
0.651
0.636
0.642
0.705
0.676
0.688
0.649
0.668
0.66
HWRPL-1
HWRPL-2
HWRPL-3
HWRPL-4
Objective weight by FF-MEREC
Subjective weight by FF-SWARA
Integrated weight

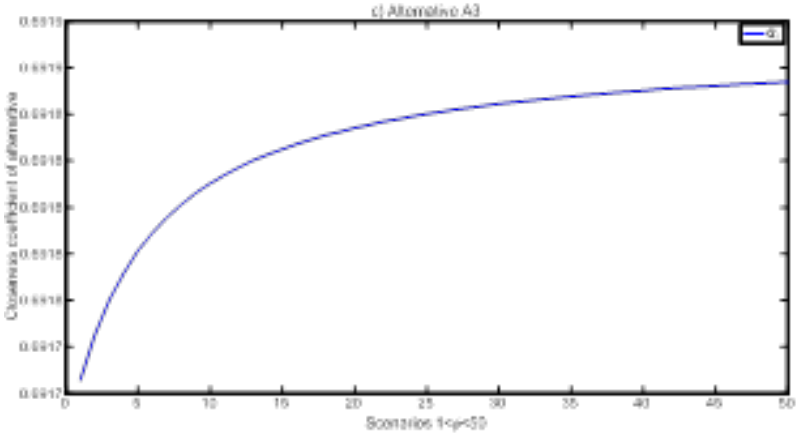

0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
Fuzzy weight
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
Criteria

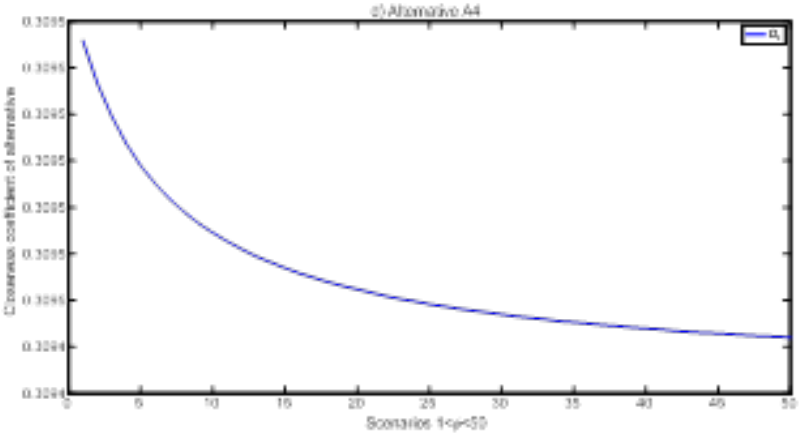

A1
A2
A3
A4

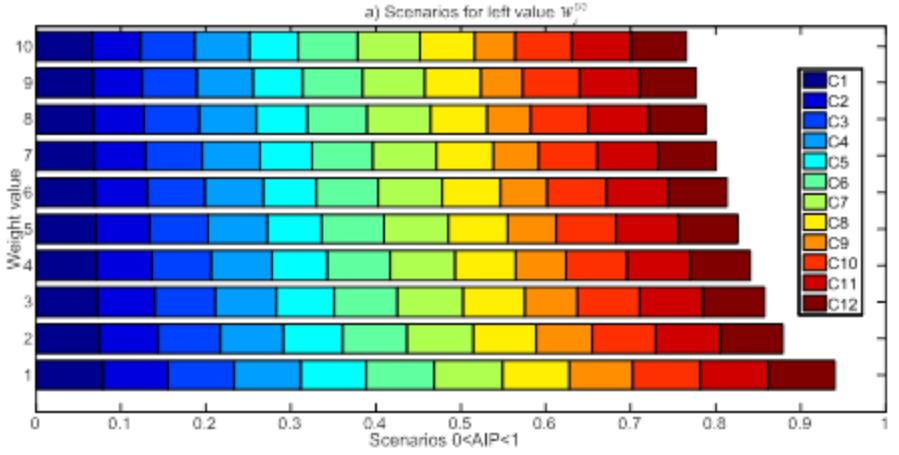

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
0
2
4
6
8
10
12
14
16

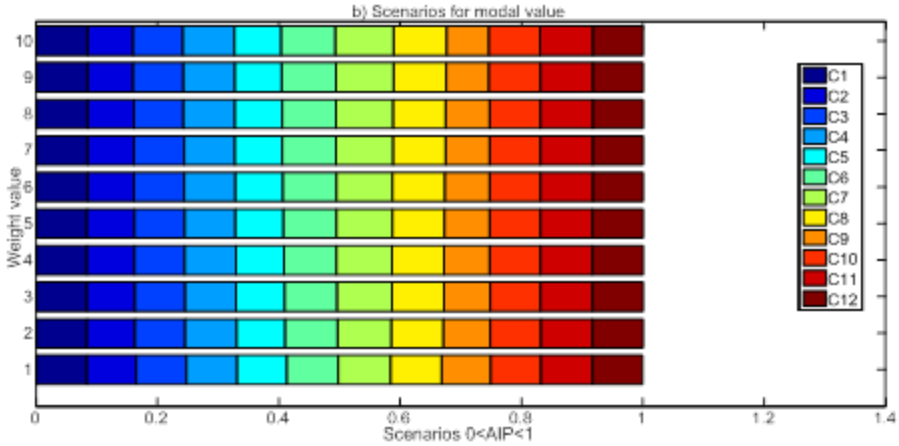

a) Alternative A1
Scenarios 1<p<50

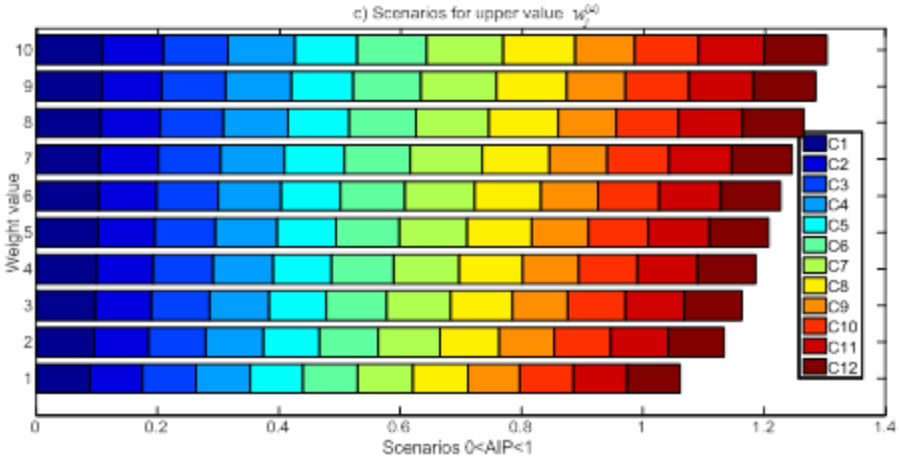

b) Alternative A2
Scenarios 1<p<50

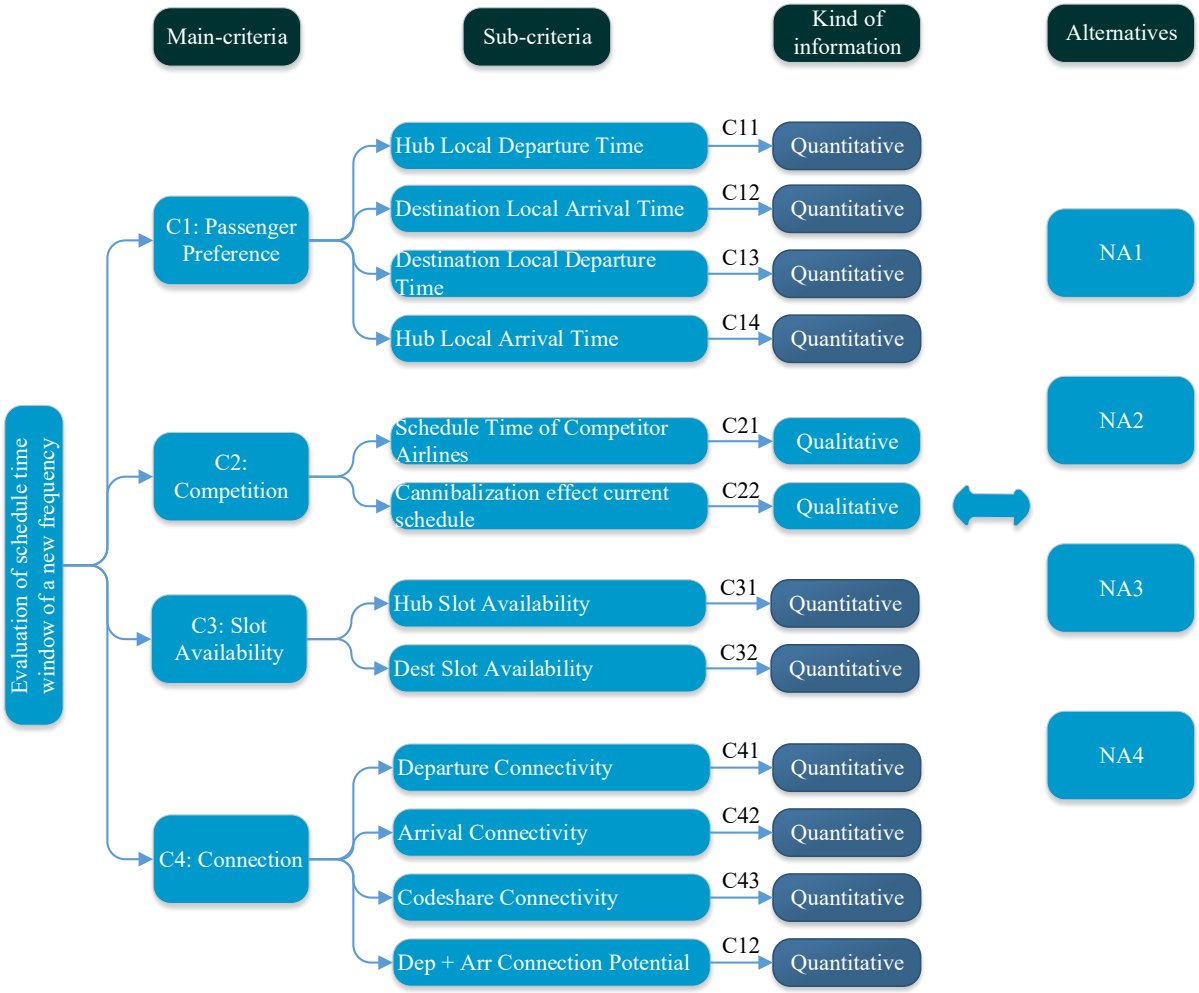

c) Alternative A3
Scenarios 1<p<50

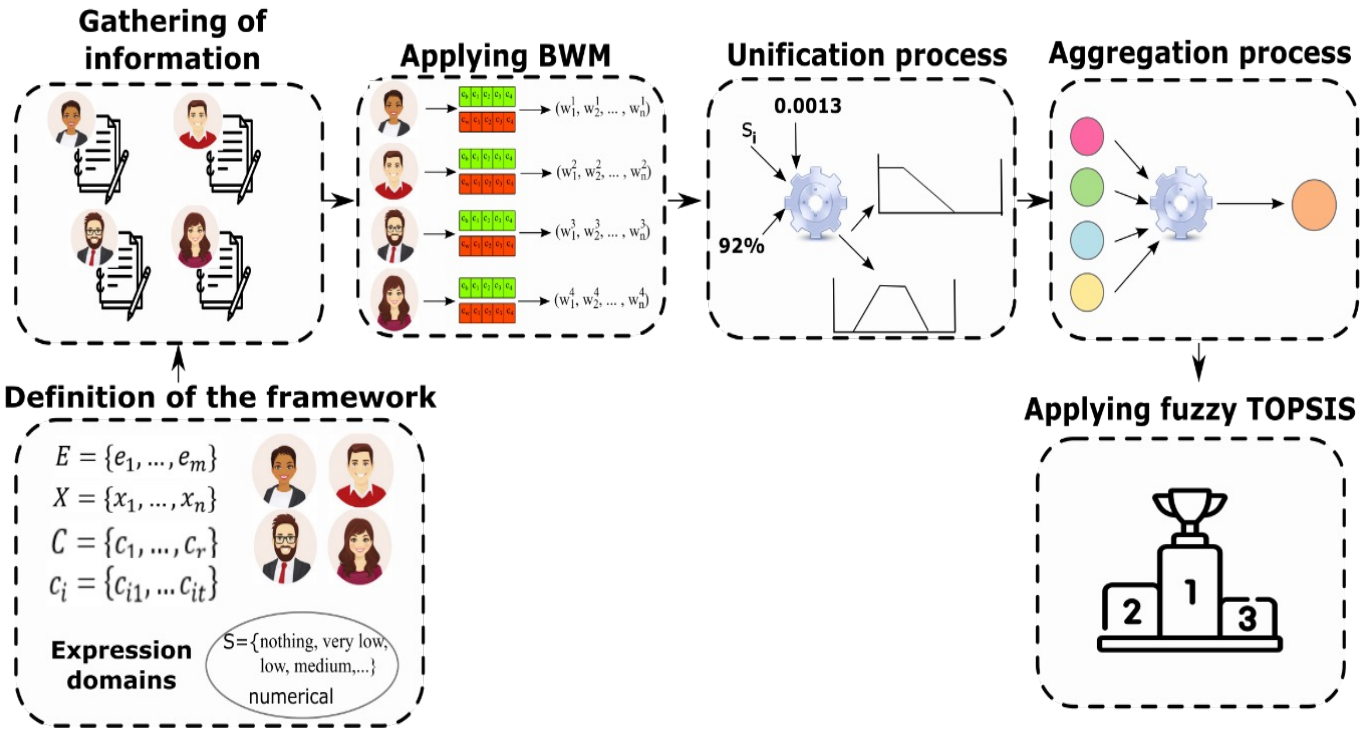

d) Alternative A4
Scenarios 1<p<50


a) Scenarios for left value
Weight value
Scenarios 0<AIP<1
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12


b) Scenarios for modal value
Weight value
Scenarios 0<AIP<1
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12


c) Scenarios for upper value
Weight value
Scenarios 0<AIP<1
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12

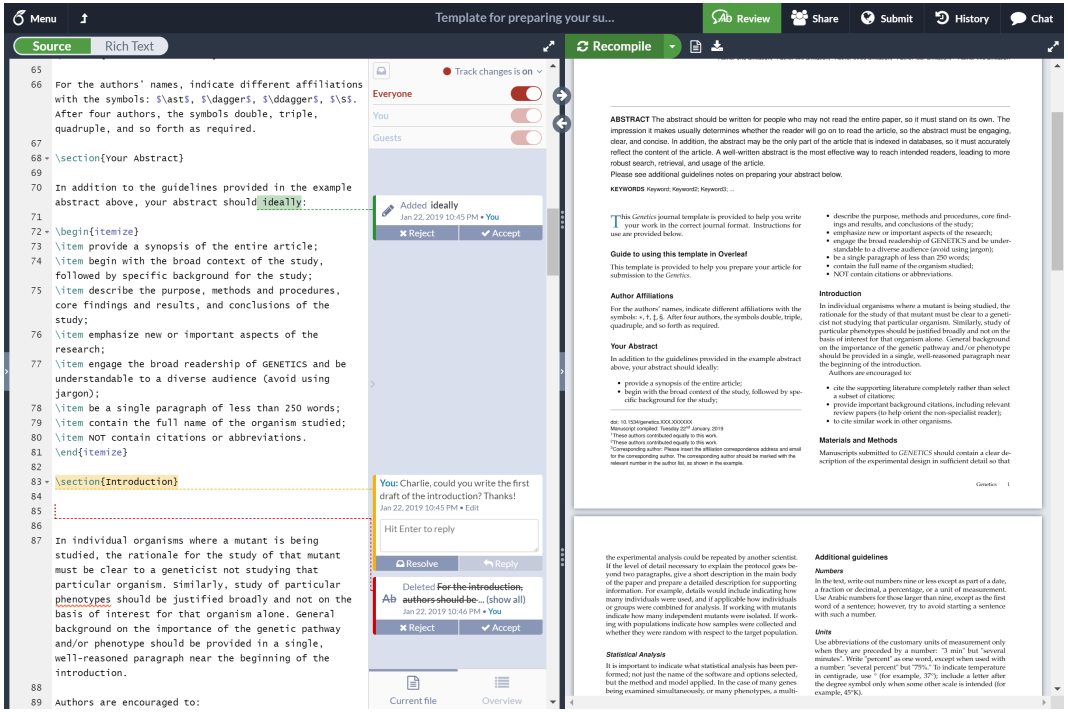

Main-criteria
Sub-criteria
Kind of information
Alternatives
Evaluation of schedule time window of a new frequency
C1: Passenger Preference
C2: Competition
C3: Slot Availability
C4: Connection
Hub Local Departure Time
Destination Local Arrival Time
Destination Local Departure Time
Hub Local Arrival Time
Schedule Time of Competitor Airlines
Cannibalization effect current schedule
Hub Slot Availability
Dest Slot Availability
Departure Connectivity
Arrival Connectivity
Codeshare Connectivity
Dep + Arr Connection Potential
C11
C12
C13
C14
C21
C22
C31
C32
C41
C42
C43
C12
Quantitative
Quantitative
Quantitative
Quantitative
Qualitative
Qualitative
Quantitative
Quantitative
Quantitative
Quantitative
Quantitative
Quantitative
NA1
NA2
NA3
NA4


Gathering of information
Applying BWM
Unification process
Aggregation process
0.0013
Si
92%
Definition of the framework
E = {e1, ..., em}
X = {x1, ..., xn}
C = {c1, ..., cr}
ci = {ci1, ... cit}
Expression domains
S={nothing, very low, low, medium,...}
numerical
Applying fuzzy TOPSIS
2
1
3

VSB TECHNICAL UNIVERSITY OF OSTRAVA

Overleaf/Latex

- Overleaf is a collaborative cloud-based LaTeX editor for writing, editing, and publishing scientific documents.



Menu Hom1 Review Share Submit History Ch

Source Rich Text Recompile 12

Template
- IEEEtran
- imag
- appendix.tex
- biblio.bib
- dataset_and_featu...
- intro.tex
- model.tex

File outline
- Introduction

```
1  % !TEX root = template.tex
2
3  \section{Introduction}
4  \label{sec:introduction}
5
6  Artificial Neural Networks (ANN) are powerful learning
   algorithms inspired by the brain to store information
   \cite{h1}. Similar to the human brain, ANN is based on
   a collection of neurons with many connections between
   them. Neural networks have been used to find unknown
   relationships between various parameters based on large
   numbers of examples. Examples of successful
   applications of neural networks are object detection,
   image classification, computer vision, speech
   recognition. Moreover, neural networks are more and
   more used in medical applications. There are many types
   of neural networks architectures. Examples of various
   types of neural networks are the Hopfield network, the
   multilayer perceptron, the Boltzmann machine, and the
   Kohonen network.
7
8  In this homework, the focus is on two different neural
   networks for solving two kinds of supervised learning
   problems. For this reason, the analysis will be divided
   into two building blocks:
9  \begin{enumerate}
10 \item Regression Task
```

Homework 1: Supervised Deep Learning

Eugenia Anello[1]

I. Introduction

Artificial Neural Networks (ANN) are powerful learning algorithms inspired by the brain to store information [1]. Similar to the human brain, ANN is based on a collection of neurons with many connections between them. Neural networks have been used to find unknown relationships between various parameters based on large numbers of examples. Examples of successful applications of neural networks are object detection, image classification, computer vision, speech recognition. Moreover, neural networks are more and more used in medical applications. There are many types of neural networks architectures. Examples of various types of neural networks are the Hopfield network, the multilayer perceptron, the Boltzmann machine, and the Kohonen network.
In this homework, the focus is on two different neural networks for solving two kinds of supervised learning problems. For this reason, the analysis will be divided into two building blocks:

1) Regression Task
2) Classification Task

The first architecture proposed is a simple neural network to solve a regression problem. In this regression task, the goal is to train a neural network that approximates an unknown function. As training point, there are only noisy measures from the target function.
The second and last explored model is the convolutional neural network to classify MNIST handwritten digits into one of 10 classes representing integer values from 0 to 9, inclusively. This last dataset, called MNIST, consists of 70,000 images of handwritten digits. To find the best architectures in both problems, the hyperparameters were tuned using Optuna, an automatic hyperparameter optimization software framework. The advantage of Optuna is that it allows to define search spaces for the hyperparameters dynamically and uses pruning to discard low-quality trials easily. Through this approach, different optimizers and regularization methods were considered. In both tasks, k fold cross validation was implemented to evaluate the final performance of the models. The report is structured as follows. In Section 2, there are details about the methodology applied. In Section 3, there are the results. An appendix is one model for each SL problem to solve. Google Colab was the environment used to train and evaluate the models.

A. Regression task

Before building the neural network, the training dataset was splitted into 80 samples for the training set and 20 samples for the validation set, while the test set remains composed by 100 samples. The structure of the neural network proposed includes three fully connected layers, in which each of them have respectively 26, 88, 38 hidden units and ELU as activation, and an output layer, that returns an output value corresponding to the prediction of the response variable.

Layers	Input Shape	Output Shape	Activation function
Input Layer	1	26	ELU
Hidden Layer 1	26	88	ELU
Hidden Layer 2	88	38	ELU
Output Layer	30	1	-

TABLE 1: ANN architecture

The hyperparameters of the model are selected using a hyperparameter optimization framework, called Optuna [2]. The range and optimal values of these hyperparameters selected for the model are shown in Table 2.

Hyperparameter	Range	Optimal Value
Learning rate	[0.00001-0.01]	0.07
Train batch size	[2-10]	4
Optimizer	[Adam,Adadelta,Adagrad, RMSprop,SGD]	Adagrad
Number of linear layers	[1,2,3]	3
Number of units for input layer	[4-128]	26
Number of units for first hidden layer	[4-128]	88
Number of units for second hidden layer	[4-128]	38

TABLE 2: The range and optimal values of hyperparameters for NN.

Multiple values were tried for the Learning rate between 0.00001 and 0.01.

VSB TECHNICAL UNIVERSITY OF OSTRAVA

Journal Finder

- Elsevier Finder Journal

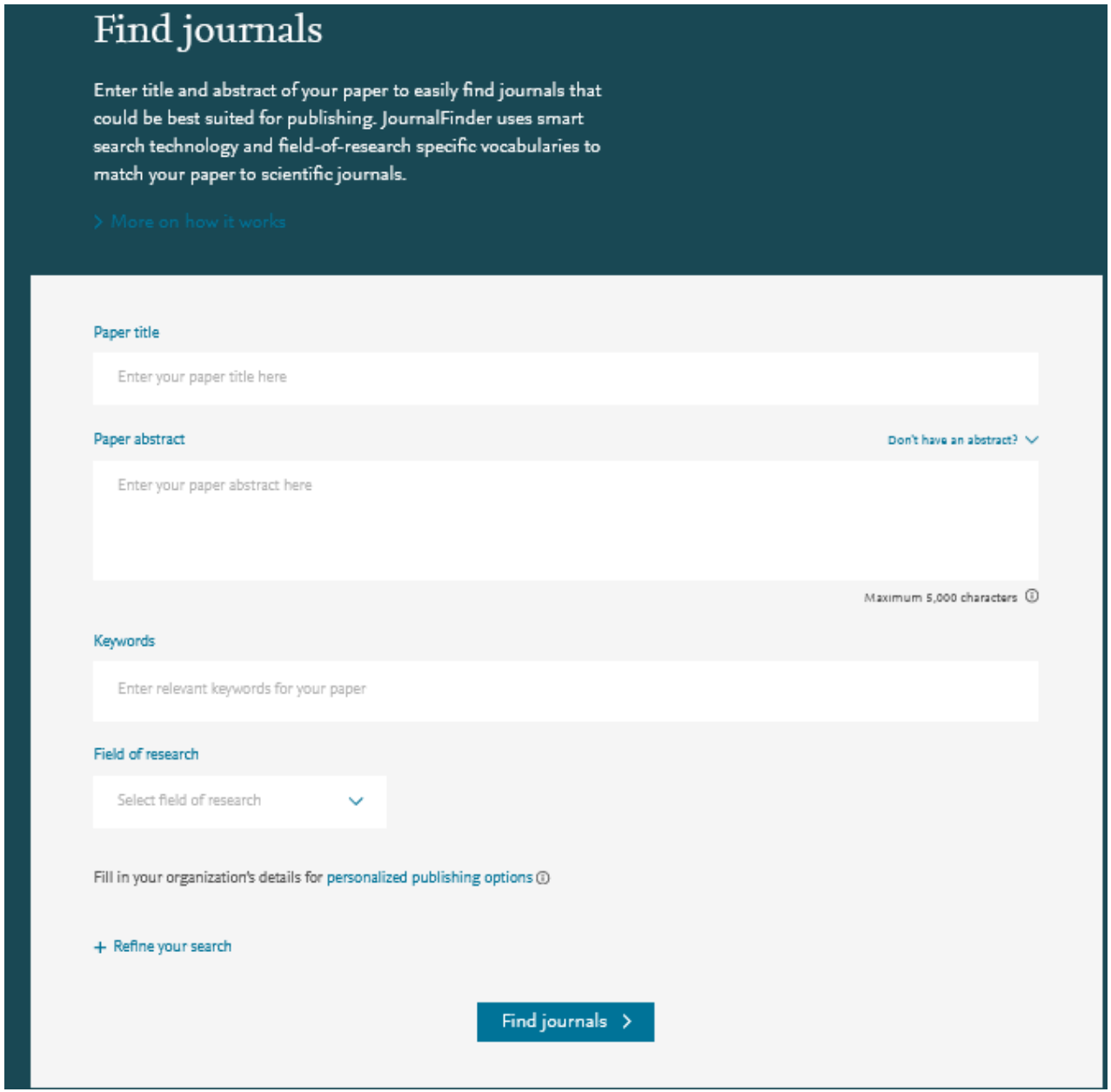
https://journalfinder.elsevier.com/

- Springer Journal Suggester

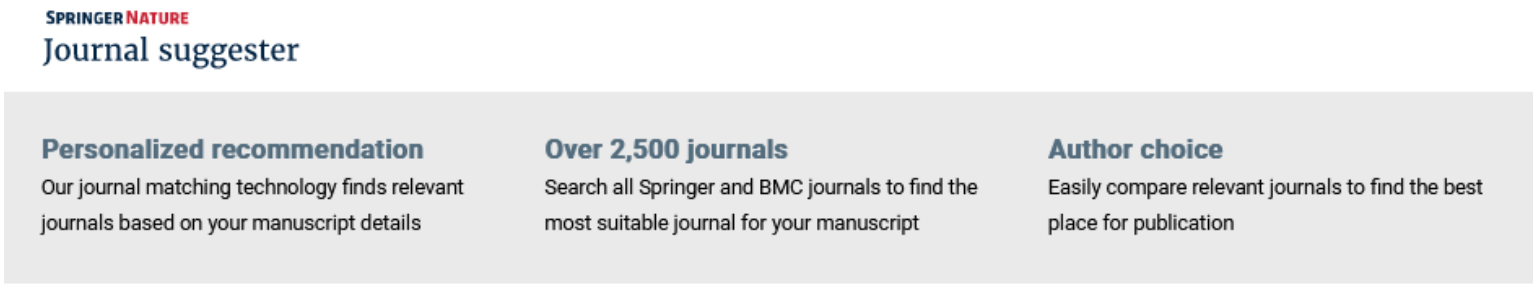
https://journalsuggester.springer.com/

Elsevier Finder Journal

VSB TECHNICAL UNIVERSITY OF OSTRAVA



Springer Journal Suggester



VSB TECHNICAL UNIVERSITY OF OSTRAVA

Journal Format

- Should check«**Guide for Authors** for submission
- Particular attention should be paid to the reference style

Approximately 20%-30% of studies receive desk rejection because they do not comply with these rules.

Plagiarism Detection Software

- **iThenticate** (The most used program in the world)
- Turnitin
- Plagiarism Checker

Plagiarism Detection Software

iThenticate

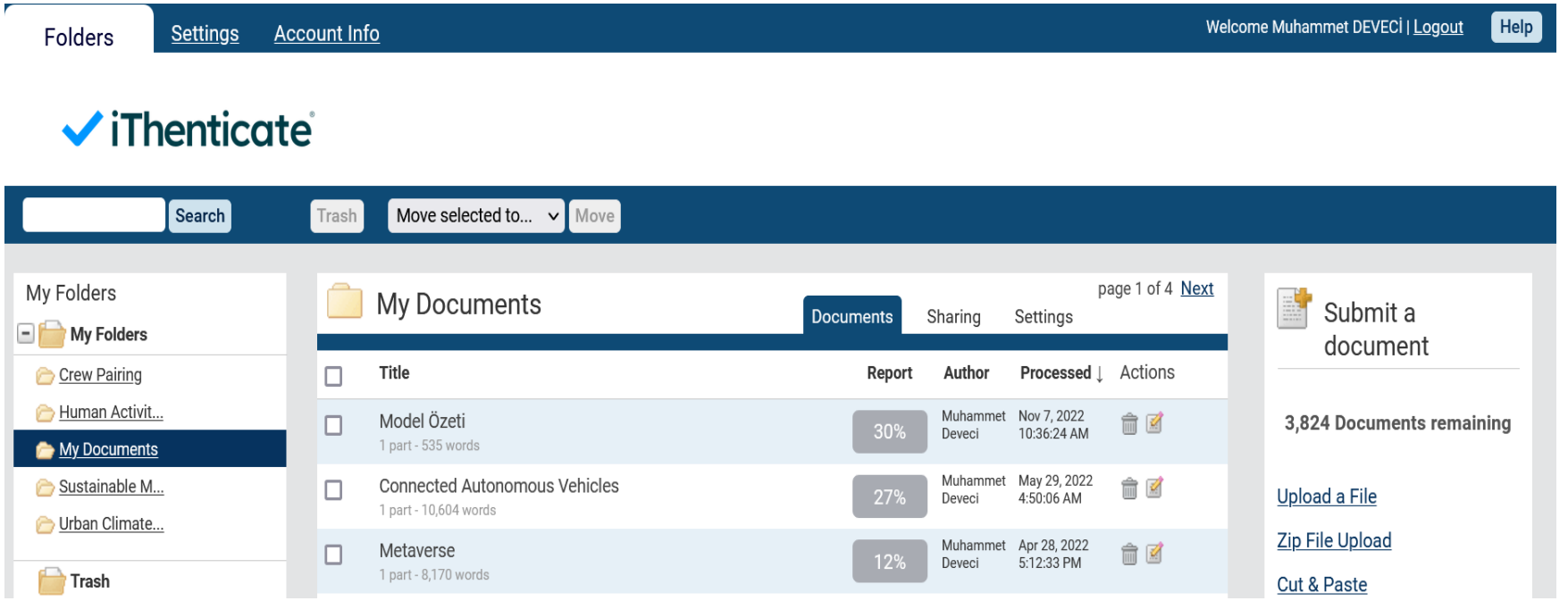
Solutions Resources Pricing Login Buy Credits

Publish With Confidence

iThenticate is the most trusted plagiarism checker by the world's top researchers, publishers, and scholars.

Buy Credits View Demo

Plagiarism Detection Software



Plagiarism Rate

- The plagiarism rate of the manuscript should be <=%20 rate
- Taking from a single source should not exceed 2-3%.
- The manuscript must be checked by the corresponding author or co-authors using plagiarism tool before it is submitted

ChatGPT


Is ChatGPT
A USEFUL RESOURCE
OR A PIECE OF
PLAGIARISM?
By: Hina Javed Malik

Conclusion / Tips

- manuscript should be free from grammatical errors.
- the methods should be solid and original.
- Your contribution is to new methodologies.
- it should include many citeable keywords.
- preferably with a famous corresponding author.
- interesting writing style also may be helpful.

Conclusion / Tips

- You cite the same literature that the articles in the journal cite.
- You cite the foundational authors or the most cited works in the field.
- A title that shows your contribution and show, even with the work, that you present something «new» or «novel» .

Q&A

Assoc. Prof. Muhammet Deveci
muhammetdeveci@gmail.com

Thanks