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LIST OF SYMBOLS

Symbol	Description
a	Triangular fuzzy number
a_1, a_2, a_3	Fuzzy triplet representing triangular fuzzy number
A_1, A_2	Linguistic labels
β, β_τ	Marginal outcomes at the mean and predetermined quantiles of the household income
B_1, B_2	Linguistic labels
BNS_{ij}	Best non-fuzzy performance score
c_-	Corresponds to the set of criteria which exhibits negative value to overall objective of the problem
CE^*	The comparative estimate
CI	Consistency index
d_i	Shannon entropy diversification index
d_0	Entropy constant
d_i^+	Distance of sub-criteria with reference to fuzzy ideal solution
d_i^-	Distance of sub-criteria with reference to fuzzy nadir solution
D_{ic}^f	Fuzzy dominance rating
d_i^l	Degree of diversification in terms of lower bound value
d_i^u	Degree of diversification in terms of upper bound value
$r(D_{ij})$	Representation values
$D_{ij}(\max)$	Standardize fuzzy dominance rating with respect to positive criteria
γ	Vector coefficient at mean quantile
γ_τ	Vector coefficient at predetermined quantile
h_i^l	Lower bound entropy value
h_i^u	Upper bound entropy value
λ	Optimism index
λ_{max}	The largest eigenvalue in the comparison matrix
$(L_{sc})_{Nr}$	Normalized left hand score of the criteria

$l_1, l_2, m_1, m_2,$	Linear parameters
n_1, n_2	
μ_{A_i}, μ_{B_j}	The membership functions of A_i and B_j
N	The total number of data observations
$O_i^1, O_i^2, O_i^3,$	Layer 1, 2, 3, 4, and 5 outputs of ANFIS architecture
O_i^4, O_i^5	
Q_τ	Quantile regression expression
PC_m	Principal component ‘m’
R	The correlation coefficient
RMSE	The root-mean-square error
$(R_{sc})_{Nr}$	Normalized right hand score of the criteria
$(\theta_i)_{AVG}$	Fuzzy weighted average value of the attribute
$(\theta_i)^{Lb}$	Lower bound value of the attribute
$(\theta_i)^{Ub}$	Upper bound value of the attribute
S_{ij}	The mean fuzzy evaluation of alternative
S_j	Stakeholder
SL_1	Satisfaction level 1 (before)
SL_2	Satisfaction level 2 (after)
W_i	Normalized fuzzy weight
\dot{w}_i	The ratio of firing strength to the summation firing strengths
\tilde{w}_{ij}	Represents the fuzzy weight rating given by the expert
$(\tilde{w}_{ij})_{Nr}$	Represents the normalized fuzzy weight rating of the criteria
w_t	Categorical weight of the criteria
\tilde{w}_t	Fuzzy weight of the sub-criteria
x_i	ith scale value of the criteria
\tilde{x}_{ij}	Fuzzified value of the data point
X_{m1}	It represents the amplitude of m^{th} principal component
X_{max}	Maximum scale value of criteria
X_{min}	Minimum scale value of the criteria
X_{norm}	Normalized scale value of criteria

LIST OF ABBREVIATIONS

Abbreviation	Description
ADB	Asian Development Bank
AHP	Analytic Hierarchy Process
AI	Artificial Intelligence
ANFIS	Adaptive Neuro-Fuzzy Inference System
ANN	Artificial neural networks
CI	Computational Intelligence
ELECTRE III	Elimination Et Choix Traduisant la Realite
FDM	Fuzzy Delphi method
FIS	Fuzzy inference system
F-MCDM	Fuzzy multi-criteria decision
Fuzzy-TOPSIS	Fuzzy Technique Order Preference by Similarity to Ideal Solution
FWA	fuzzy weighted average method
GIS	Geographical Information Systems
GMIR	Geometric mean integration representation
IDA	International Development Association
KBS	Knowledge-based system
MAVT	Multi-attribute Value Theory
MCDM	Multicriteria decision making
MMR	Mixed methods research
OLS	Ordinary least square regression
PCA	Principal Component Analysis
PCs	Principal components
PMGSY	Pradhan Mantri Gram Sadak Yojana
PROMETHEE	Preference Ranking Organization Method for Enrichment Evaluations
QUIP	Qualitative impact protocol
SEI	Socio-economic impacts
SEIA	Socio-economic impact assessment
SES	Socio-economic status

STDs Sexually transmitted diseases

TFN Triangular fuzzy number
