

Fuzzy numbers are more realistic representations of the imprecise linguistic variables that are used by the decision makers during the preference elicitation stage of the analytical hierarchy process. Therefore, FAHP really seems to serve for a cause and improve the process. As a result, abundant number of research is conducted and various FAHP techniques are proposed. However, there is virtually no throughout analysis of these techniques and measure their performance for different experimental conditions. Such a comparison would be invaluable for the researchers and the practitioners of the field since it will hint which technique might be more suitable for the problem that they are facing. In future we are going to conduct extensive experimental analysis where not only FEA but other techniques are also going to be part of. Furthermore, conventional AHP techniques will also be included in those analysis and the contribution (if any) of the FAHP will be assessed as well.

REFERENCES

- [1] T. L. Saaty, "The analytic hierarchy process: planning, priority setting, resource allocation (decision making series)", McGraw-Hill (Tx), 1980.
- [2] S.-H. Tsaur, T.-Y. Chang, and C.-H. Yen, "The evaluation of airline service quality by fuzzy mcdm," *Tourism management*, vol. 23, no. 2, pp. 107–115, 2002.
- [3] L. Zadeh, "Fuzzy sets," *Information and Control*, vol. 8, no. 3, pp. 338–353, 1965.
- [4] T. Takagi and M. Sugeno, "Fuzzy identification of systems and its applications to modeling and control," *Systems, Man and Cybernetics, IEEE Transactions on*, no. 1, pp. 116–132, 1985.
- [5] K. Kilic, B. A. Sproule, I. B. Turksen, and C. A. Naranjo, "Pharmacokinetic application of fuzzy structure identification and reasoning," *Information Sciences*, vol. 162, no. 2, pp. 121–137, 2004.
- [6] O. Uncu, K. Kilic, and I. Turksen, "A new fuzzy inference approach based on mamdani inference using discrete type 2 fuzzy sets," in *Systems, Man and Cybernetics, 2004 IEEE International Conference on*, vol. 3. IEEE, 2004, pp. 2272–2277.
- [7] O. Uncu, I. Turksen, and K. Kilic, "Localm-fsm: A new fuzzy system modeling approach using a two-step fuzzy inference mechanism based on local fuzziness level," in *Proceedings of international fuzzy systems association world congress, 2003*, pp. 191–194.
- [8] P. Van Laarhoven and W. Pedrycz, "A fuzzy extension of saaty's priority theory," *Fuzzy sets and Systems*, vol. 11, no. 1, pp. 199–227, 1983.
- [9] C. Boender, J. De Graan, and F. Lootsma, "Multi-criteria decision analysis with fuzzy pairwise comparisons," *Fuzzy sets and Systems*, vol. 29, no. 2, pp. 133–143, 1989.
- [10] J. J. Buckley, "Fuzzy hierarchical analysis," *Fuzzy sets and systems*, vol. 17, no. 3, pp. 233–247, 1985
- [11] H. Deng, "Multicriteria analysis with fuzzy pairwise comparison", *International Journal of Approximate Reasoning*, Vol. 21, no. 3, pp. 215–231, 1999.
- [12] G. Buyukozkan, C. Kahraman, and D. Ruan, "A fuzzy multi-criteria decision approach for software development strategy selection," *International Journal of General Systems*, vol. 33, no. 2-3, pp. 259–280, 2004.
- [13] D.-Y. Chang, "Applications of the extent analysis method on fuzzy ahp," *European journal of operational research*, vol. 95, no. 3, pp. 649–655, 1996.
- [14] Y.-M. Wang, T. Elhag, and Z. Hua, "A modified fuzzy logarithmic least squares method for fuzzy analytic hierarchy process," *Fuzzy Sets and Systems*, vol. 157, no. 23, pp. 3055–3071, 2006
- [15] K. Zhu, "Fuzzy analytic hierarchy process: Fallacy of the popular methods," *European Journal of Operational Research*, vol. 236, no. 1, pp. 209–217, 2014.
- [16] T. J. Ross, "Fuzzy logic with engineering applications", first edition ed. McGraw-Hill College, 5 1995.
- [17] J. Chen and Y. Yang, "A fuzzy anp-based approach to evaluate region agricultural drought risk," *Procedia Engineering*, vol. 23, pp. 822–827, 2011.
- [18] B. Golany, M. Kress, "A multicriteria evaluation of methods for obtaining weights from ratio-scale matrices", *European Journal of Operational Research*, vol. 69, no. 2, pp. 210–220, 1993.

BIOGRAPHY

Faran Ahmed is a PhD Student in the Faculty of Engineering & Natural Sciences of Sabanci University, Istanbul, Turkey. He holds a Masters Degree in Industrial Engineering from Sabanci University and another Masters degree in Engineering Management from National University of Science and Technology (NUST), Pakistan. After completing Bachelors in Engineering from Ghulam Ishq Khan Institute (GIKI), Pakistan, he has worked in the engineering servicing sector of Pakistan for 04 years. His current research interest are decision analysis and decion support systems for applications related to health care and energy.

Kemal Kilic is working as Associate professor in the Faculty of Engineering & Natural Sciences of Sabanci University, Istanbul, Turkey. He holds a PhD in Industrial Engineering, University of Toronto, Toronto. He completed his Masters degree in Industrial Engineering from Bilkent University, Ankara, Turkey. His current research interest include Data Mining, Decision Support Systems, Health Informatics and Innovation Management.