6. Conclusion

Control charts in SPC have very common usage in practice. But if there is uncertainty or impression in data, the process should be controlled with the fuzzy sets. Fuzzy control charts provide flexibility to upper and lower limits.

There are two contribution of this paper:

1. A new way of calculating fuzzy standard deviation has been proposed in Section 3. So, the difficulty of calculating fuzzy standard deviation with fuzzy numbers is removed and it can be easily used in fuzzy $\tilde{\tilde{X}}$ and $\tilde{S}$ control charts. Also, the application of fuzzy $\tilde{\tilde{X}}$ and $\tilde{S}$ control charts has been illustrated in a food industry for evaluating the packing process of biscuits.
2. The theoretical structure of fuzzy $\tilde{\tilde{X}}$ and $\tilde{S}$ control charts has been proposed for the case that the population parameters (μ and σ) are known.

For further research, other membership functions like trapezoidal or L-R type can be used in the developed control charts.

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