ABSTRAK

Triyudawanto, Fransiskus Asisi Wawan (2021), *Penilaian mandiri dokumen persiapan pengadaan dengan Metode Fuzzy Inference System pada pengadaan barang/jasa Pemerintah Kabupaten Buleleng*. Tesis, Ilmu Komputer, Program Pascasarjana, Universitas Pendidikan Ganesha.

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Kata-kata kunci: penilaian mandiri, dokumen persiapan pengadaan, DPP, metode fuzzy inference system, FIS, pengadaan barang jasa pemerintah.

Penelitian ini bertujuan untuk mengetahui bagaimana metode Fuzzy Inference System (FIS) mampu menilai kelayakan Dokumen Persiapan Pengadaan (DPP), serta untuk mengetahui ketepatan metode pada FIS dalam menilai kelayakan DPP yang diajukan pada pengadaan barang jasa di Pemkab. Buleleng. Sesuai dengan Perka LKPP nomor 9 tahun 2018, DPP yang akan diproses harus direviu terlebih dahulu oleh UKPBJ sebelum diproses melalui LPSE. Proses pengajuan DPP oleh PPK untuk diproses UKPBJ di Pemkab Buleleng telah dilaksanakan menggunakan aplikasi SIAP. Untuk meminimalisir kesalahan dari DPP yang diajukan oleh PPK ini, maka sebelum diproses melalui aplikasi SIAP, terlebih dahulu dinilai kelayakannya secara mandiri. Penilaiannya ini menggunakan FIS karena sifat variabel-variabel yang dinilai yang tidak tegas (*fuzzy*).
Terdapat beberapa metode FIS yang dapat digunakan. Dalam penelitian ini akan diperbandingkan FIS metode Tsukamoto atau FIS metode Mamdani yang paling tepat atau direkomendasikan untuk menentukan kelayakan DPP. Penentuan rekomendasi ini berdasarkan performa masing-masing metode dibandingkan hasil keputusan ahli PBJ terhadap kelayakan DPP yang diajukan. Pengujian performa masing-masing metode ini menggunakan *confusion matriks*.
Berdasarkan tingkat akurasinya (*accuracy*), FIS metode Mamdani memiliki nilai yang lebih baik sebesar 1,53% daripada FIS metode Tsukamoto. Sedangkan dilihat dari ketepatannya (*precision*), FIS metode Mamdani sedikit lebih baik daripada FIS metode Tsukamoto, dengan selisih hanya 0,03%. Demikian juga untuk perhitungan rasio prediksi hasil algoritma FIS yang dinyatakan LOLOS dan benar (*recall*), FIS metode Mamdani lebih baik 2,00% daripada FIS metode Tsukamoto. Sedangkan untuk nilai perbandingan antara *precision* dan *recall* yang diberikan bobot (*F-1 score*) FIS metode Mamdani hasil tetap lebih baik daripada FIS metode Tsukamoto, dengan selisih nilai sebesar 1,22%. Dengan demikian secara umum, FIS metode Mamdani lebih baik daripada FIS metode Tsukamoto dengan rata-rata selisih sebesar 1,19%. Berdasarkan hasil pengujian tersebut maka dapat disimpulkan bahwa FIS metode Mamdani lebih direkomendasikan dari pada FIS metode Tsukamoto untuk menentukan kelayakan DPP. Kedepan diharapkan pengembangan aplikasi SIAP dapat untuk mampu melakukan fungsi kontrol terhadap DPP yang diajukan.

ABSTRACT

Triyudawanto, Fransiskus Asisi Wawan (2021), Self-assessment of procurement preparation documen with fuzzy infrence system in a government goods and services procurement at Buleleng Regency Government. Thesis, Computer Science, Post Graduate Study Program, Ganesha University of Education.

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Keywords: self-assessment, procurement preparation document, fuzzy inference system, government goods and services procurement.

This research was aimed at ascertaining how Fuzzy Inference System (FIS) method was able to assess the eligibility of procurement preparation document (DPP), also to find out the accuracy of the FIS method in assessing the aptness of DPP proposed on the procurement of goods and services (PBJ) in the district government of Buleleng. According to the regulation of the Head of the Government of good and services (LKPP) Number 9 in 2018, the DPP that would be processed must be initially reviewed by the goods procurement unit (UKPBJ) before being processed through electronic procurement services (LPSE). The process of submitting the DPP by the PKK to be processed by UKPBJ in the district government of Buleleng has been carried out using the SIAP application. In order to minimize errors from the DPP proposed by this PPK, before being processed through the SIAP application, its feasibility was firstly assessed independently. The assessment used FIS because of the fuzzy nature of the variables assessed.

There are several methods that can be used in the FIS. In this current study, Tsukamoto FIS method and Mamdani FIS method were compared to determine which of the method was the most appropriate or was recommended to be applied to determine the eligibility of the DPP. The determination of the suggested FIS method was based on the performance of each method compared to the decisions of PBJ experts on the feasibility of the proposed DPP. The performance test of each of these methods used a confusion matrix.

Based on the level of accuracy, the Mamdani method had a better score of 1.53% than the Tsukamoto method. Meanwhile, the precision level showed that the Mamdani method was slightly better than the Tsukamoto method, with a difference of only 0.03%. Likewise, the calculation of the prediction ratio of the algorithm which was declared PASSED and recall revealed that the Mamdani method was 2.00% better than the Tsukamoto method. Meanwhile, for the comparison score between precision and recall given a score (F-1 score), FIS Mamdani method results were still better than the Tsukamoto method, with a difference of 1.22%. Thus, in general, the Mamdani method was better than the Tsukamoto method with an average difference of 1.19%. Based on the results of these tests, it can be concluded that the Mamdani method is more recommended than the Tsukamoto method to determine the feasibility of the DPP. In the future, it is expected that the development of the SIAP application will be able to carry out the control function of the proposed DPP.