ABSTRACT


At the end of 2008 the number of organizations (products and services) in Indonesia that are implementing ISO 9001:2008 Quality Management System (QMS) is as much as 5713 organizations. In the implementation of QMS, the organization is required to deploy six documented procedures and two of them are document control procedures and records control procedures. This research aims to design a prototype of document control applications by applying Backpropagation Artificial Neural Networks (ANN) algorithms to recognize the document number. The document were in hardcopy or recorded form. To get the best pattern recognition, training process and testing were carried out using a number of data. The amount of data used in this research as many as 1,400 data, 75% is used as training data and 30% used as testing data. The best ANN model was obtained using 80 input layer, 30 hidden layer, and 11 output layer. The model is able to produce a validation accuracy of 99.49% and testing accuracy of 97.62%. The prototype of document control application is done by creating a six module interface of document control process, namely the process of user data input, data input unit, form and image data input forms, distribution forms, input data and image recording, viewing and deleting expired recording, and tracking recording. At the end of the research was conducted simulation and testing of applications that are built. The results of the tests provide an accuracy of 97% success.

Keyword: document control, quality management system, neural network, pattern recognition, recorded.