

ABSTRACT

Indonesia is a tropical country with two seasons, the dry season and the rainy season. In the rainy season, some special phenomena arise that can disrupt outdoor activities, especially for pedestrians and motorcyclists as their shoes often get wet in the rain. When it rains, people who do outdoor activities often cannot avoid the rain, so their shoes get wet and need to be dried. However, during the rainy season, it is difficult to get enough sunlight to dry the shoes, so the shoes cannot be used immediately. The shoe drying method still uses the conventional way with sunlight, which is unreliable during the rainy season. Therefore, another alternative is needed to dry shoes effectively. The purpose of this research is to design a shoe dryer that can be used for shoe washing businesses in Bandung. The Quality Function Deployment (QFD) method was used as a design approach to meet customer needs and improve product quality. The author conducted a survey of shoe washing companies in Bandung to identify existing problems and determine alternative solutions. Furthermore, the author designed a shoe dryer based on the results of the analysis and used the House of Quality (HOQ) as a design guide. The result of this research is a 3D design of a shoe dryer that has been designed by following user needs. The design of the shoe dryer has eight (8) shoe supports and temperature simulation using solidworks software and calculated thermal efficiency at 50 °C with 60 minutes is an efficient time to dry wet shoes. The design of the optimal shoe dryer includes high drying efficiency, ease of operation, durable and easy-to-maintain materials, and additional features such as additional capacity, a heating system with even heat distribution and accurate temperature control, good air circulation, and strong construction materials.

Keywords: Shoe washing business, Shoe dryer, Quality Function Deployment, House of Quality, Product Development.