

ABSTRACT

The problems experienced by UMKM Baidho Boutique are found at the sewing and embroidery work stations. Operators working at these workstations appear to be in an unergonomic position. Based on observations, the operator's posture does not look ergonomic when using the existing work chair. The operator complained that the existing work chair used caused pain to the operator's body. Based on the results of the Nordic Body Map (NBM) assessment, it shows that operators experience pain in the upper body, such as in the neck, shoulders, back and waist. With these characteristics, the operator's posture shows the risk of Musculoskeletal Disorders (MSDs). This study aims to address the problem through the application of the Reverse Engineering method. In the process, ergonomic evaluation is carried out with Rapid Upper Limb Assessment (RULA) as a tool to assess the operator's work posture at Baidho Boutique. In addition, anthropometric dimension data is integrated to ensure that the resulting chair design is suitable for individual physical characteristics. After designing a suitable proposed work chair based on anthropometric dimension data, there was a decrease in the RULA score from 7 in the initial condition to 2 in the proposed condition, thus this study succeeded in improving the operator's condition in ergonomic aspects, thereby improving their health and safety at work. With a lower risk of injury, seamstresses can work more comfortably and efficiently, ultimately contributing to an improvement in their well-being. In addition, the reduction in physical fatigue due to a more ergonomic working position will increase productivity, as seamstresses can work longer without feeling tired or experiencing pain.

Keywords: *Tailor, Embroidery and sewing process, Tailor work chair, Ergonomics, Musculoskeletal Disorders (MSDs), Nordic Body Map (NBM) Rapid Upper Limb Assessment (RULA), Reverse Engineering.*