

ABSTRACT

The condition of Usaha Kecil Menengah (UKM) in Indonesia is minimal in terms of infrastructure. CV Tansa, which is located in Bandung, also experienced this, although it has a business time of 30 years but currently still does not have a tool for moving half-cooked cracker sacks that must be moved through uneven rocky roads with a distance of 20 meters, so that the transfer of raw cracker sacks weighing 55 kg was carried out manually by being carried on the shoulder repeatedly every day. Almost the entire production process here is carried out using the help of machines so as to provide convenience for workers. Like the dough kneading process which is usually done using two mixer machines. The process of moving the cracker wet dough is carried out using a transfer tool in the form of a trolley, but the drawback of this tool is that it can only be used in a warehouse with a flat surface, while the sack transfer process does not yet have a transfer tool. This manual transfer process can be a problem for workers if it is done every day, the longer the time this can cause health problems for workers, namely the presence of Musculoskeletal Disorders (MSDs).

The problem of moving aids can be solved using the Quality Function Deployment (QFD) method. This method was chosen with the aim that users can feel the maximum quality of the product designed by providing the user's needs or desires for the product. The design of the tool is equipped with a calculation of the worker's body posture and the heavy load received by the worker. Calculations were performed using the Rapid Entire Body Assessment (REBA) and Recommended Weight Limit (RWL) methods. The existing condition is calculated using both methods so that later it can be compared with the process of using the product. The design concept selection is done using a morphology chart that displays options for each criterion using text and images.

The design of the product proposal using the Quality Function Deployment (QFD) method produced a goods moving tool in the form of a horizontal pulley that stretches between two production buildings that facilitates the transfer of raw cracker sacks. The pulley is designed to reduce the burden on workers and reduce the distance of moving so that the moving process time can be reduced from the

existing one. The pulley design also considers field conditions such as the path through which trucks will pass through the bottom of the pulley, so that there is no disturbed mobilization. The results of the existing REBA assessment of the improvement proposal were 58.3% The time of moving the sack of raw crackers which was previously eight minutes to one minute 38 seconds which means an increase of 79.6%. The results of the design showed that there are tools to improve the existing conditions at CV Tansa starting from body posture, worker load to production process time.

The implementation of the bidding tool had the greatest impact on workers in the process of moving the raw cracker sacks. Improvements that occur with the design of a sack transfer tool in the form of a shortened transfer path, the time does not go through a shortened process. This advantage gives rise to other benefits that will be felt indirectly, namely less labor is wasted, the overall production process is faster, production targets can be completed more quickly. The birth of a safe and comfortable work environment provides a good work experience for all workers, while also preventing workers from being exposed to musculoskeletal disorders.

Keywords — Quality Function Deployment, UKM, Musculoskeletal Disorders