

## **ABSTRACT**

*MSDs complaints were found in the CV NJ Food tempeh production process. These complaints can be seen from the results of the Nordic Body Map (NBM) questionnaire of workers from each workstation and the results showed that the majority of workers' pain complaints occurred in the back and waist. The results of the Nordic Body Map questionnaire explained that the biggest MSDs complaints were at the soy yeast mixing process workstation. The workload that gave rise to MSDs complaints was proven by the results of RULA and REBA calculations on the existing conditions of the yeast mixing process with body position which resulted in a RULA score of 7 and a REBA score of 5 as well as in the process of moving the yeasted soybeans to a soybean container before packaging was carried out with the calculation result of a RULA score of 7 and a REBA score of 6. In an effort to resolve the problem of MSDS complaints, improvements to the work system are needed by taking an approach that integrates aspects of design procedures with structural aspects of design so as to use the Rational Product, Kansei Engineering, and Quality Function Deployment methods as work tool design methods that can correct previous product weaknesses based on customer needs. The aim of this research is to optimize production to make it more efficient and reduce workers' MSDs complaints in order to improve the performance of the tempeh industry. This is proven by the results of the RULA analysis of the selected concept (concept B) which obtained a decrease in value to 3 and the REBA score to 4, which means that the designed machine can reduce MSDs complaints.*

*Keywords: Tempe, Musculoskeletal Disorder, Rational Product, Kansei Engineering, Quality Function Deployment*