NCON-PGR_2022_010

Integration of QRM and Ergonomics in the Design of a Framework in Identification Complaints among Automotive Assembly Line Workers

***N Nelfiyanti*[1,2], Nik Mohamed*[1] *and* ***MFFA Rashid*[1]**

[1]College of Engineering, Universiti Malaysia Pahang, 26300 Gambang, Pahang, Malaysia.

[2]Department of Industrial Engineering, Faculty of Engineering, Universitas Muhammadiyah Jakarta, 10510 Jakarta, Indoneisa.

**Corresponding author:* nelfiyanti@umj.ac.id

Abstract

The assembly line is the most critical area of automotive manufacturing. The smoothness of the production process depends on the situation and conditions of the environment and its workers. The assembly process is done manually by using humans to install all the related components in the production line. Complaints felt by workers during the manufacturing process can hinder the smooth running of production in meeting capacity, thus affecting the company's performance. Therefore, the purpose of this study is to design a framework for identifying workers' complaints by using a combination of the Quick Response Manufacturing (QRM) and ergonomics. This framework is expected to identify grievances felt by workers from all aspects of the assembly environment that could potentially impact employment grievances. Framework design is created using the main concept of QRM which consists of time is money, tailoring your dynamics, focusing on the target market segment and thinking gold. Each of these concepts contains ergonomic elements such as workload variables and complaints of musculoskeletal disorders related to production schedules, production time, overtime, facility layout and equipment used. It is hoped that this framework can achieve the desired goal of minimizing work risk in optimizing the production process of the assembly line.

Keywords: Assembly Line; Assessment; Ergonomic; Framework; QRM.