A Future Framework of Knowledge-Based Ergonomics Assessment System at Workplace in Automotive Assembly Plant

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ABSTRACT

There are several parameters must be correctly evaluated to guarantee a good level of interaction between worker and working system, in order to avoid safety and health problems. The lack of attention to occupational ergonomics issues may to potential ergonomics risk for which decision makers are ignore when develop new product and process. This paper proposed a novel framework to facilitate the ergonomics knowledge management for occupational risk assessment. It serves two objectives, the first objective is to aid the decision makers predicting ergonomics risk element at early stage of development product and process. The second objective is to develop knowledge-based ergonomics assessment system (KBEAS) in automotive assembly plant. The respondents of the study are about 250 and consist of assembly workers ranging from operator to executive level in automotive component assembly plant. The activities of direct observation, activity analysis, photography, video, survey questionnaire and interviews, are employed to measure the occupational ergonomics risk factors. The outcome of these activities will be used as an input for analytical hierarchy process (AHP) technique to prioritize the occupational ergonomics risk ate workplace. The outcome of this framework could ease decision makers in assessing and prioritizing the ergonomics risk at the early stage of product and process in automotive component manufacturer..

Keywords: Occupational ergonomics; Ergonomics risk assessment; Knowledge-Based system; Analytical hierarchy process

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