

ERGONOMIC ASSESSMENT OF DRIVER'S SEAT OF TAXICABS USED IN NIGERIA

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ABSTRACT

Workspace and Driver's seat design in particular play significant role in the comfort, performance and safety of driving task. Reduction in associated safety and health risk of work related problems can be readily enhanced through the use of a well designed participatory ergonomic intervention program. This study assesses ergonomic characteristics of occupational driver's seat found in Taxicabs used for public transport in Nigeria. Five commonly used taxicab models were selected for the investigation. A total of 1409 taxicab drivers were considered. A three dimensional macro-ergonomics evaluation Technique (3D-MET) was used to analyze the interrelationship between the subjects (driver), the object (vehicle) and object conditions (in-vehicle elements). Six ergonomic criteria were assessed while nineteen seat variables were analyzed. Significant cases of potential misfits were observed on some cab's workplace features. Mazda's seat design had better acceptability while ease of use was rated well for all the vehicles except Nissan. The identified constrained posture was observed to have resulted in increased discomfort and health risks. Application of Ergonomics to the design of technological system element then become a necessary step to the development of user-friendly, comfortable and save work system. The 3D – MET revealed that Mazda had the best ergonomic assessment.

KEYWORDS: Seat, Comfort, Musculoskeletal disorder, PEI. 3D-MET