

Development of an anthropometry database for the Malaysian population: problems and challenges

ABSTRACT

Ergonomics is generally to design for human use and optimizing the working and living conditions. The comfort, safety and ease of use of systems, products and machines require the principles of ergonomics to be incorporated into the design. Anthropometry is a part of ergonomics which deals with the measurement of body dimensions, its capability and limitations of the human ability. Studies have indicated that body dimensions differ for various populations, depending on ethnic group, sex and age. The measurement of physical characteristics and abilities of people provides information that is essential for the appropriate design of occupational and non- occupational environments, as well as for the design of consumer products, clothing, tools and equipment. It has been considered as the very basic core of ergonomics in an attempt to resolve the dilemma of 'fitting people to machines'. It has also been regarded as a branch of anthropology which deals with physical characteristics of the man in time and space, particularly with individual variation, ontogenesis and generic development. Knowledge about man from the point of view of physical anthropology is very useful for the purpose of ergonomics and design. Thus it is important that an anthropometric database for each nation is developed to ensure design of products and systems are compatible with the user population. In Malaysia, many researchers have conducted anthropometric studies on various groups of people, focused on a small sample size and used for specific designs. Unfortunately, the measurements are not representatives of the population. The work has been individually based, confined to certain group of researchers in various universities and there is no concerted effort towards developing a national anthropometric database. This paper discusses some of the anthropometry work conducted in Malaysia, the problems and challenges in developing the national database, the importance of anthropometry and the roles that the government has to play in developing the database.

Keyword: Anthropometry; Database; Design; Malaysian