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A Method for Integrating Ergonomics Analysis into Maintainability Design in a Virtual Environment

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Description

An office is a place where professional duties and administrative work is carried out in the organization building. The work depends on the type of business, but it will usually include using computers, communicating with others by e-mail, telephone or fax, keeping records and files etc. in hard and soft format. Features of an office such as people, building space, equipment, furniture and the environment, must fit together well for workers to feel healthy and comfortable and to be able to work efficiently and productively. More than 50% of the world's population currently works in some form of office. Mostly the developing countries like India and China are having more population. They are working with machines and majority of them are from computer related sector [1]. In the Information Technology (IT) and Information Technology Enable Services (ITES), workers are dependent on the computers. More IT and ITES sectors are increasing in India. The study on performance, health and wellbeing of office workers productivity is an essential to improve it. Indoor environmental quality has an important role to play in office worker's performance, health and wellbeing. The effect of environmental factors brings down the health and efficiency of office workers [2]. The primary objectives of this study are to improve productivity and performance. Any study on these environmental factors can potentially benefit millions of people around the world. Hence an attempt has been made to carry out a study on the performance of office workers by considering the indoor office environment.

Environment Ergonomics

An essential requirement of office worker's productivity improvement is indoor environmental quality. The indoor room temperature and illumination are the most important vital factors that affect the performance of office workers. Li Lan stated that the thermal discomfort caused by elevated air temperature had affected the performance of office workers. The performance decreased when the thermal condition in the indoor room was deviated from the neutral conditions. While comparing with neutral condition, the performance decreased at the slightly cool or slightly warm environment condition explained the office workers spend 90% of the time in indoor environment. Indoor room environment has direct relation with the office worker's health and wellbeing. 10% of office worker's performance may be increased by achieving the best indoor environmental quality [3]. Li Lan, Z.W. studied the office workers had more negative emotions and had to use more effort to maintain performance under slightly warm or slightly cool environment conditions. Environmental factors have imperative role to play in the effectiveness of office workers. There have been no standard procedures to evaluate office worker's performance. Li Lan was proposed neurobehavioral approach to evaluate the effect of office indoor room temperature on the office worker's performance.

Environmental Factor

Environmental factors have more related influence on productivity of office workers. Good working environment is an essential requirement for the office workers. Indoor room temperature, illumination are the factors which is affecting the indoor environmental quality of an office. If IEQ affected in the office, the response of office workers will also be affected. This leads to the negative performance of office worker [4]. So the productivity of office workers also decreased. The relation between indoor environmental factors on productivity of office worker. Earlier researchers had given enough contribution to physical factor and work place design that affecting performance and productivity of office workers. The study on indoor room temperature on the performance of workers has been studied by researchers. Similarly the effect of illumination also studied already. The combined effect of environmental factors such as temperature and illumination on the productivity of office workers has to be studied [5]. Hence indoor room temperature, illumination have been investigated in this paper.

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