

PEI-TI CHANG

Graduate Institute of Architecture and Sustainable Planning, National Ilan University, Taiwan, R.O.C

JUI-JUNG HSIAO

Graduate Institute of Architecture and Sustainable Planning, National Ilan University, Taiwan, R.O.C

INDOOR ENVIRONMENTAL QUALITY FACTORS INTERACTION ANALYSIS - USING OFFICE ENVIRONMENT AS AN EXAMPLE

Abstract:

The environment of employee's workspace is thought to be related to job performance. In other words, good office environment is considered as having the function to increase work efficiency (Larsen, Adams, Deal, Kweon, and Tyler, 1998; Sundstrom, Town, Rice, Osborn, and Brill, 1994). In this study, seven factors of indoor environmental quality (Lee and Kim, 2009) were adopted to establish the model for evaluating indoor environmental quality of offices. These indoor environmental quality related factors include office layout quality, office furnishings quality, thermal comfort quality, indoor air quality, lighting quality, acoustics quality, as well as cleanliness and maintenance quality.

The primary purpose of this study is to investigate the inter-influence relationship of all the indoor environment quality factors adopted in this study. In this study, DEMATEL (Decision Making Trial and Evaluation Laboratory) was employed as the methodology to evaluate indoor environmental quality of offices. With DEMATEL method, the authors plan to figure out which of the factors has crucial influence on other factors, and which factors receive influences from others. In other words, the personal workspace quality was evaluated and analyzed with DEMATEL method.

The related data were collected from office users. The results of the study are aimed at serving as the suggestions for enhancing planning of indoor environmental quality in workspaces.

Keywords:

Indoor environmental quality, DEMATEL, Thermal comfort quality, Indoor air quality, Lighting quality, Acoustics quality.