

Post Occupancy Evaluation of Thermal Comfort and User Satisfaction in a Green IT Commercial Building

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Abstract : We are entering a new age in the built environment where we expect our buildings to deliver far more than just a place to work or live. It is widely believed that sustainable building design strategies create improved occupants' comfort & satisfaction with respect to thermal comfort & indoor environmental quality. Yet this belief remains a hypothesis with little empirical support. IT buildings cater to more than 3000 users at a time. Nowadays people spend 90% of the time inside offices. These sustainable IT office buildings should provide the occupants with maximum comfort for better work productivity. Such green rated buildings fulfill all the criteria at the designing stage, but do they really work as expected at the occupancy stage. The aim of this paper is to evaluate whether green IT buildings provide the required comfort level as expected at the design stage. Building Occupants are a rich source of information for evaluating their comfort level in the building and to find out the solutions for their discomfort. This can be achieved by carrying out Post Occupancy Evaluation after the building has been occupied for more than a year or two. The technique consists of qualitative methods like questionnaire surveys & observations and quantitative methods like field measurements, photographs. Post Occupancy Evaluation was carried out in a Green (Platinum rated) IT building in Pune. 30 samples per floor were identified for the questionnaire survey. The core questions access occupant satisfaction with thermal comfort in the work area and measures adopted for making it comfortable were identified. The Mean Radiant Temperature of the same samples was taken to compare the quantitative and qualitative results. The survey was used to evaluate the occupant thermal comfort in a green office building and identify areas needing improvement. The survey has been designed in reference to ASHRAE standard 55-2010 & ISHRAE 10001:2017 IEQ and was further refined to suit the user of the building.

Keywords : green office building, building occupant, thermal comfort, POE, user satisfaction, survey

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