EVALUATION OF INDOOR ENVIRONMENT QUALITY OF AN OFFICE BUILDING CERTIFICATED CASACLIMA A+

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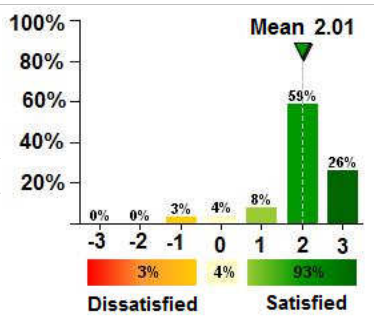
ABSTRACT

The indoor environmental quality of an office building certified A+ according to CasaClima (Italian energy rating method) was assessed using the Italian translation of the survey developed and used in more than 420 buildings (47000 respondents) by the Center for the Built Environment, University of California, Berkeley. The results show a high level of satisfaction with the indoor environmental quality in the building is , with 93% of participants satisfied.



INTRODUCTION

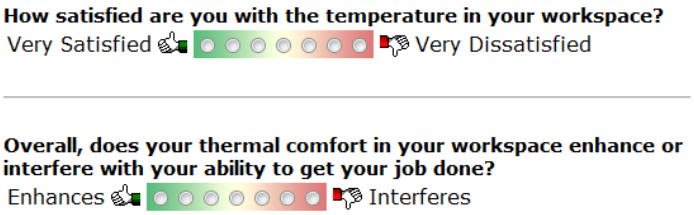
Indoor Environmental Quality (IEQ) affects occupant health, comfort and productivity. It can be assessed via physical measurements or by gathering occupant assessments of the environment. CasaClima energy certification focuses on energy calculations but not IEQ.

METHOD

According to ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers), USGBC (United States Green Building Council) and CIBSE (Chartered Institution of Building Services Engineers) surveys are a cheap and fast method for assessing indoor environmental quality. The survey assesses the following areas:

- general satisfaction
- office layout
- office furnishings
- thermal comfort
- indoor air quality
- lighting
- acoustics
- building cleanliness and maintenance
- general comments

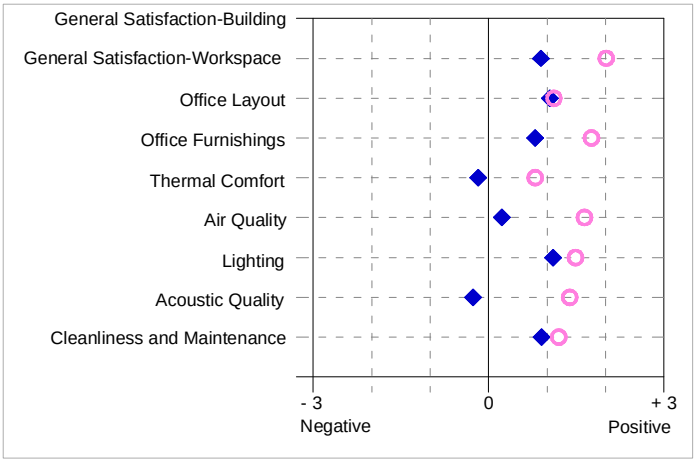
Satisfaction or dissatisfaction is rated in a 7-point scale with endpoints – 3 and + 3, as reported in the figure.



Camera di Commercio of Bolzano: the building, has an energy requirement of 30kWh/m^{2}a or less, according to the CasaClima calculation method. Heating and cooling are provided by radiant ceiling panels.

RESULTS

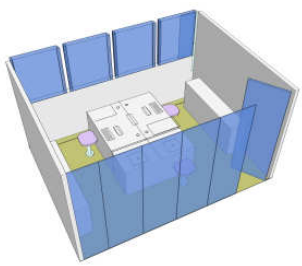
93% of participants are satisfied with the building (see figure above).

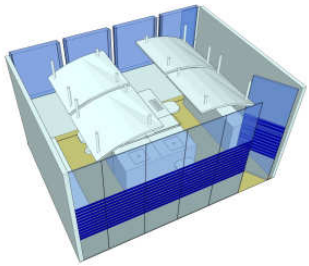


➢For each of the survey topics the studied building received a equal or higher score than the average value of the CBE benchmark (see figure above).

➢ Thermal comfort obtained the lowest score, while the overall satisfaction obtained the highest.

➢ To improve areas with greatest dissatisfaction, the following interventions to the furniture are proposed: panels sound insulation and satin films to increase visual privacy (see figure below).





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FURTHER INFORMATION

CBE Survey link in Italian (demo):
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