

Design interventions for Productivity in Offices

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Abstract— *From years, architects in US and Europe have considered different techniques and designs which may improve employee output and productivity. Various researchers had discussed that, the arrangement of the office workspace are performing important role in increasing productivity of employees and boosting offices performance. There is a need to have certain guidelines for office design (in terms of satisfaction with lighting, temperature, spatial arrangement, furniture, plants, window view and noise) to ensure employees' productivity. Present study is an attempt to establish certain guidelines' for office design in Indian setting. A total of 660 employees from various offices of Chandigarh were recruited as sample. The age range of the sample was between 25 to 60 years. The data collection instrument for this study was a structured questionnaire developed by the researcher with the help of experts. In order to make office employees comfortable in their work environment, this study outlines that it is imperative to adopt an integrated approach to design. Building Designers will be guided by the results of this study for providing better designed spaces and in understanding the built environments impact on occupants.*

Keywords— *environment, perceived satisfaction, productivity, Design, Built environment*

I. INTRODUCTION

Office space or as it is known from Ancient Rome "officium" means service, a place where people create or even produce different services. People spend most of their time at work, a place with possibilities to meet new people, work and socialize.

Productivity is an important factor in every organization. Profit and loss depend to a large extent on productivity of the employees. Productivity is defined in simple words as a ratio of the output quantity to the quantity of inputs. From years, architects in US and Europe have considered different techniques and designs which may improve employee output and productivity. Various researchers had discussed that, the arrangement of the office workspace are performing important role in increasing productivity of employees and boosting offices performance (Kaplan, 2001; Veitch, 2001; Aries et al., 2010).

Abid and Tara (2013) conducted a study to find out the relationship among the rewards and motivation with mediating role of office design. It was reported that when effective rewards (compensation, promotion and recognition) with amalgamation of prime office design (furniture, noise, temperature, lighting and spatial arrangement), leads to increase in employee motivation which as a results leads to increase in employee loyalty, increase productivity and low turnover in organizations. Animashaun and Odeku (2014) reported that furniture, equipment, lights and devices are usually put in place to facilitate and improve work environment.

In reference to India this is a new area of research. In India, office environment and related processes are considerably sidelined. The physical aspects of the work environment do not always receive as much attention as the managerial and interpersonal aspects. There is a need to have certain guidelines for office design (in terms of satisfaction with lighting, temperature, spatial arrangement, furniture, plants, window view and noise) to ensure employees' productivity. Present study is an attempt to establish certain guidelines' for office design in Indian setting.

II. METHODOLOGY

Sample

A total of 660 employees from various offices of Chandigarh were recruited as sample. The age range of the sample was between 25 to 60 years. The employees who were working for the last three years in a particular organization were considered for inclusion in this study. The minimum educational qualification of the selected subjects was graduation. Out of the 1000 questionnaires distributed, there was a total of 660 questionnaire respondents. This is approximately a 66% response rate.

Questionnaire

The data collection instrument for this study was a structured questionnaire developed by the researcher with the help of experts. The questionnaire is adapted and modified version of already existing scales of occupants' satisfaction with indoor environment quality (IEQ) components of other buildings by different researchers. Questionnaire also consisted of open ended questions regarding employees most preferred working conditions in terms (furniture, noise, temperature, lighting and spatial arrangement) to increase their productivity

III. RESULTS AND DISCUSSION

Data from the 660 respondents was analyzed and following recommendations were made based on the responses of majority of respondents

Recommendations for Office Design to control Indoor Office Environment

1) Furniture Preference

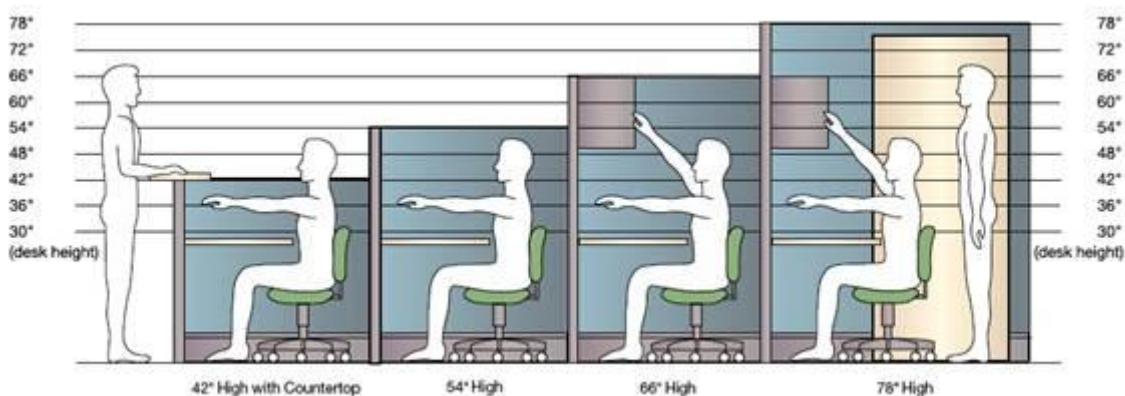


Figure 1: Furniture should be according to individual anthropometrics

Should be according to individual anthropometrics instead of standard size (one for all individuals)

2) Noise Level Preference

Should be preferably limited to Quiet Office (35 dB to 45 dB) level.

3) Temperature Preference

Range of 20° to 26° C in all seasons

4) Lighting Preference

Provide Daylight during all seasons. Fix distance from window according to height of window opening (depth=1.2 to 2 X height of window). Accordingly depth of office block should be fixed in design

5) *Spatial Arrangement* should be decided after discussion on users feedback, any one of following listed can be adopted accordingly.

1. Two person office
2. Two person combination office
3. Multi person office
4. Group office
5. Open plan office
6. Combination
7. Individual office
8. Mix of office types(Team office)

6) Views/ Window proximity Preference

Indoor and outdoor must be connected through windows/openings thus facilitating views and daylight form outdoors. It is required that almost all of the occupied office space must have view of outdoors, windows should be provided between two feet six inches and seven feet six inches above floor level. If seventy five percent off office area has direct line of sight that is counted.

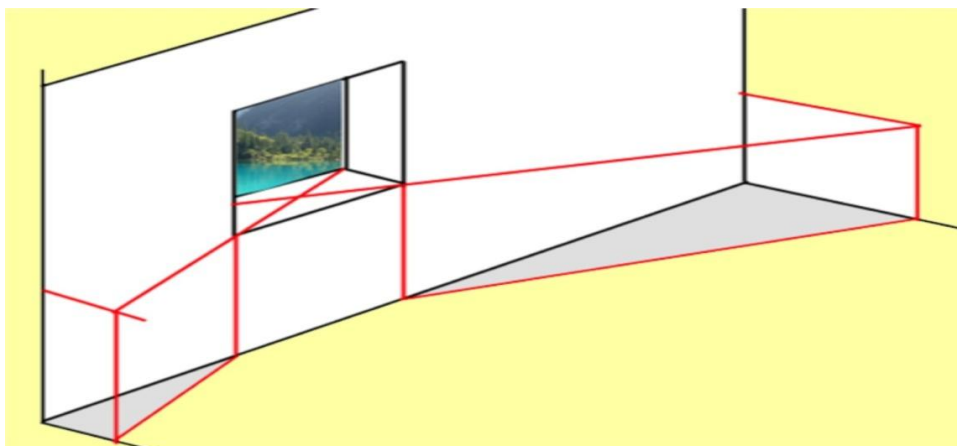


Figure 2: Determination of sight lines for view (plan criteria)

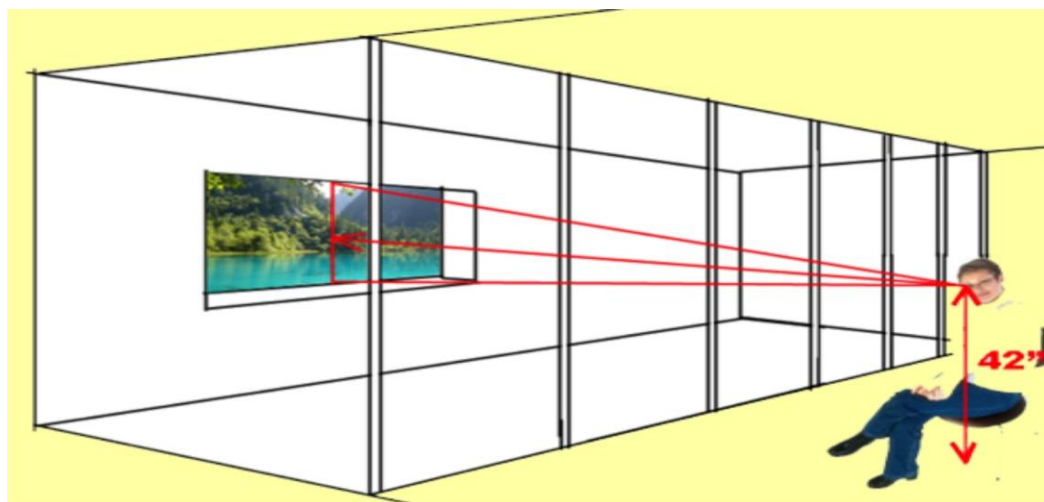


Figure 3: Determination of sight lines for view (sectional criteria)

7) Nature/Plants Preference

Should be within distance of 10 feet from work station

IV. CONCLUSIONS

In order to make office employees comfortable in their work environment, this study outlines that it is imperative to adopt an integrated approach to design. This will lead to the basis of design that ensures better health and satisfaction of office users. Architects responsibility is to create a space where employees would be inspired and motivated to work inside, in an ergonomically efficient space through a well thought design. Building Designers will be guided by the results of this study for providing better designed spaces and in understanding the built environments impact on occupants.

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