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**COMPARATIVE STUDY OF THERMAL COMFORT CONDITION
AND OCCUPANTS' SATISFACTION IN ATRIUM & NON-ATRIUM
SHOPPING COMPLEXES**

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ABSTRACT

Shopping complex is an organization of the physical environment, stores, restaurants, people, and promotions to the public. The climatic changes based on the increase in total energy consumption used. Therefore, the proportion of building also effects on the occupants' satisfaction on thermal comfort in shopping complex itself. Besides, thermal comfort generally, is the thermal sensation affected by certain environmental factors, such as heat transfer, temperature, air movement, and relative humidity, as well as the activities being performed by the occupants. The level of thermal comfort in the shopping complex will affect the occupants' perspective to achieve thermally acceptable. The aim of this study is to explore the occupants' satisfaction towards thermal comfort in the atrium and non-atrium shopping complex. The research methodology used in this study was a mixed-mode method which is a qualitative method by using observation form and the quantitative method by using a questionnaire survey. The respondents of this study are occupants within the atrium and non-atrium shopping complex. The data collected through a questionnaire survey were analysed by using SPSS version 23.0. Findings also indicate that the thermal comfort condition affecting the occupants' satisfaction in thermal comfort. Based on the analysed data, the most dominant factor that influences the customers' satisfaction is heat transfer. It hopes that this study will be a benefit to the public and to be view on improving the shopping complex in terms of thermal comfort.

Keywords:

Shopping Complex; Occupants' Satisfaction; Thermal Comfort

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CHAPTER 1: INTRODUCTION

1.1 INTRODUCTION

Shopping complex is a great place to enjoy yourself and relax. It mainly provides the best shopping stores, gathering area, entertainment, performances, and product launches. Frequently, shopping complex throughout the world have shared common features of aesthetics, architecture, and design. The design of each shopping complex varies in two forms where a few exist with an atrium and some does not. According to Holford and Hunt (2003), an atrium shopping complex is one of the central feature of natural ventilated building designs.

According to Anselmsson (2006), occupant satisfaction with a shopping center may be viewed as an individual's emotional reaction to personal evaluation of the total set of experiences encountered at the shopping center. To achieve occupants' satisfaction indoors, thermal comfort is essential in a shopping complex. The retail stores within the shopping complex are commonly equipped with mechanical ventilation, heating and cooling systems which operate independently located at the mall's central area (Hamlyn et al., 2012). Therefore, a balanced use of ventilation is the key to maintain the sense of comfort and warmth inside.

Ismail *et al.* (2010) and Esther and Sagada (2014) stated that, thermal comfort can be defined as "the condition of mind which expresses satisfaction with the thermal environment". Thermal comfort occurs when there is a thermal equilibrium in the absence of regulatory sweating and the heat exchange between the human body and the environment. With increased environmental awareness and standard of living, aspects such as thermal comfort have gained importance. Both indoor environmental