

**Assessment of factors influencing electrical fire occurrences in buildings and development
of a risk model: case Study of Dar es Salaam city**

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Populations around the world have been applying mitigation measures of electrical fires in buildings without knowing what the principal factors that influence the fires are. This has made efforts to alleviate electrical fire occurrences in buildings to fail. The main purpose of this research work was to identify the principal factors influencing occurrences of electrical fires in buildings and to develop an appropriate risk model. The principal component analysis methodology was used to identify the principal factors from the identified factors influencing electrical fires in buildings. The results show that short circuit and demographic factors are the principal factors influencing electrical fires in buildings. Short circuits originate from only three areas in buildings which are electrical conducting materials, equipment and appliances; whereas, demographic factors are caused by the population density and characteristics in buildings. From high number of occupants in the building, every occupant has own thinking and desire on electrical use thus accelerating the problem. The developed risk model of electrical fire occurrences in buildings revealed positioning or allowing combustible materials in buildings, for instance mosquito nets, curtains and couches including cobwebs to be close to electrical outlet points, as the critical cause contributing about 70% of the occurrences of electrical fires in buildings. Hence, the recommended method for the population to utilize is just not to put combustible materials in the building close or below the points of electrical ignition potential for instance switches and sockets. Combustible materials should be placed at least 15cm (6 feet) away from these points