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# Response Delay Model: Bridging the Gap in Urban Fire Disaster Response System

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**Abstract :** The need for modeling response to urban fire disaster cannot be over emphasized, as recurrent fire outbreaks have gutted most cities of the world. This necessitated the need for a prompt and efficient response system in order to mitigate the impact of the disaster. Promptness, as a function of time, is seen to be the fundamental determinant for efficiency of a response system and magnitude of a fire disaster. Delay, as a result of several factors, is one of the major determinants of promptgness of a response system and also the magnitude of a fire disaster. Response Delay Model (RDM) intends to bridge the gap in urban fire disaster response system through incorporating and synchronizing the delay moments in measuring the overall efficiency of a response system and determining the magnitude of a fire disaster. The model identified two delay moments (pre-notification and Intra-reflex sequence delay) that can be elastic and collectively plays a significant role in influencing the efficiency of a response system. Due to variation in the elasticity of the delay moments, the model provides for measuring the length of delays in order to arrive at a standard average delay moment for different parts of the world, putting into consideration geographic location, level of preparedness and awareness, technological advancement, socio-economic and environmental factors. It is recommended that participatory researches should be embarked on locally and globally to determine standard average delay moments within each phase of the system so as to enable determining the efficiency of response systems and predicting fire disaster magnitudes.

**Keywords :** delay moment, fire disaster, reflex sequence, response, response delay moment
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