

Statistical Analysis to Compare between Smart City and Traditional Housing

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Abstract : Smart cities are playing important roles in real life. Integration and automation between different features of modern cities and information technologies improve smart city efficiency, energy management, human and equipment resource management, life quality and better utilization of resources for the customers. One of difficulties in this path, is use, interface and link between software, hardware, and other IT technologies to develop and optimize processes in various business fields such as construction, supply chain management and transportation in parallel to cost-effective and resource reduction impacts. Also, Smart cities are certainly intended to demonstrate a vital role in offering a sustainable and efficient model for smart houses while mitigating environmental and ecological matters. Energy management is one of the most important matters within smart houses in the smart cities and communities, because of the sensitivity of energy systems, reduction in energy wastage and maximization in utilizing the required energy. Specially, the consumption of energy in the smart houses is important and considerable in the economic balance and energy management in smart city as it causes significant increment in energy-saving and energy-wastage reduction. This research paper develops features and concept of smart city in term of overall efficiency through various effective variables. The selected variables and observations are analyzed through data analysis processes to demonstrate the efficiency of smart city and compare the effectiveness of each variable. There are ten chosen variables in this study to improve overall efficiency of smart city through increasing effectiveness of smart houses using an automated solar photovoltaic system, RFID System, smart meter and other major elements by interfacing between software and hardware devices as well as IT technologies. Secondly to enhance aspect of energy management by energy-saving within smart house through efficient variables. The main objective of smart city and smart houses is to reproduce energy and increase its efficiency through selected variables with a comfortable and harmless atmosphere for the customers within a smart city in combination of control over the energy consumption in smart house using developed IT technologies. Initially the comparison between traditional housing and smart city samples is conducted to indicate more efficient system. Moreover, the main variables involved in measuring overall efficiency of system are analyzed through various processes to identify and prioritize the variables in accordance to their influence over the model. The result analysis of this model can be used as comparison and benchmarking with traditional life style to demonstrate the privileges of smart cities. Furthermore, due to expensive and expected shortage of natural resources in near future, insufficient and developed research study in the region, and available potential due to climate and governmental vision, the result and analysis of this study can be used as key indicator to select most effective variables or devices during construction phase and design

Keywords : smart city, traditional housing, RFID, photovoltaic system, energy efficiency, energy saving

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