Impact of Internet of Things (IoT) on Home Automation and Energy Management

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Abstract: *The integration of Internet of Things (IoT) technologies into home automation and energy management systems has sparked a transformative wave, reshaping the way energy is consumed and managed within households. Employing a mixed-methods research approach, this study investigated the multifaceted impact of IoT-driven solutions. Through structured surveys and qualitative interviews, the study revealed a 20% reduction in energy consumption after IoT implementation, highlighting the potential for sustainable energy practices. Participants reported heightened satisfaction with the convenience of remote control and observed significant cost savings in energy bills. However, data privacy and security concerns emerged as challenges, emphasizing the need for broad safeguards. The study contributes to the evolving discourse on IoT's potential to revolutionize domestic energy consumption and automation, emphasizing the synthesis of efficiency and user comfort in smart homes.*

Keywords: Internet of Things (IoT), Home Automation, Energy Management

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