Review of: "Internet of Things in Smart Grid: A Comprehensive Review of Opportunities, Trends, and Challenges"

Shokhan M. Al-Barzinji[1]

1 University of Anbar, Iraq

This paper serves as an excellent resource for researchers and professionals interested in IoT-enabled smart grids. It provides a balanced overview of opportunities, challenges, and future directions, backed by extensive literature. However, deeper technical insights and expanded discussion on certain topics could further strengthen its impact. The abstract effectively introduces the scope of the paper, outlining the opportunities IoT offers for technical innovation and efficiency improvements in smart grids. It identifies three main contributions:

1. Proposing feasible solutions to IoT implementation challenges.
2. Clarifying existing advancements in IoT for smart grids.
3. Raising awareness among researchers and professionals in the field.

The abstract is comprehensive and sets clear objectives, making it clear that the paper will serve as a foundational resource for understanding IoT-enabled smart grids. The introduction contextualizes the rapid growth of IoT devices globally, projecting significant increases in connected devices by 2030. Key insights include:

1. The definition and benefits of IoT, including automation, decision-making, and reduced operational costs.
2. The concept of "smart" systems, emphasizing their ability to sense, monitor, and act intelligently.

This section establishes a strong foundation for discussing IoT applications in smart grids by linking the rapid digitalization trend with the need for efficient energy systems.

Furthermore, the paper would benefit from the inclusion of more updated references to strengthen its relevance and reliability. Integrating recent studies and findings related to the topic will demonstrate the author's awareness of current developments in the field and ensure that the paper remains up-to-date.

https://www.researchgate.net/publication/331049288_Internet_of_things_utilization_for_ehealthcare_monitoring

These enhancements will contribute to the overall quality and impact of the paper, enhancing its value to the academic community and readers interested in the subject matter.

Weaknesses

1. Some sections, such as the discussion on interoperability, could benefit from more detailed technical analysis.

2. The long-term environmental impact of IoT is mentioned but not thoroughly explored.

3. A more detailed evaluation of current IoT standards and frameworks could enhance the discussion on standardization.