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Quality Assurance/Quality Control Engine for Power Outage Mitigation

The Challenge of Event Correlation for a Smart Grid Architecture Amidst Data Quality Issues

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Abstract

Energy is a key driver of economic growth. A key thematic for distribution utilities has centered upon how to better capitalize upon existing available amounts of energy within an electrical grid. Pragmatic opportunities reside within the distribution system of the grid. By means of examining and validating assumed/purported key nodes as well as properly contextualizing actual key nodes for when expeditious fault location is needed, it is possible to enhance power outage mitigation as well as facilitate more expeditious recovery and restoration of energy. We introduce a Data Visualization Analytics System (DVAS), which leverages a Quality Assurance/Quality Control (QA/QC) Engine to assist with correct identification of key nodes that have high impact on distribution utility performance indices, thereby directly affecting resiliency compliance decision-making within a Smart Grid and reporting to regulatory agencies.

Keywords

Energy efficiency Power loss optimization Cause code analysis Fault location
Outage mitigation Data visualization Resiliency compliance Event correlation
Smart grid architecture Data quality

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References

1. Tubayan, E.: WB Cites PHL Growth Promise, Risks. *BusinessWorld* (2018) [Google Scholar](#)
2. Akanle, T.: Argentina, Belize, Botswana, India, Lao People's Democratic Republic, Mozambique, the Philippines, Samoa, San Marino, Sierra Leone, Thailand Submit INDCs. SDG Knowledge Hub, International Institute for Sustainable Development (IISD) (2015) [Google Scholar](#)
3. Mondal, A., Rosegrant, M., Ringler, C., Pradesha, A., Valmonte-Santos, R.: The Philippines energy future and low-carbon development strategies. *Energy* **147**, 142–154 (2018) [CrossRef](#) [Google Scholar](#)
4. Yap, C.: Persistent Power Outage in Philippines Triggers Senate Probe. *Bloomberg* (2019) [Google Scholar](#)
5. Casayuran, M.: Signing of Energy Efficiency Act 'A Win for Ordinary Customers' – Gatchalian. *Manila Bulletin* (2019) [Google Scholar](#)
6. Rivera, D.: Philippine Electricity Rates Still Highest in Southeast Asia. *The Philippines Star* (2017) [Google Scholar](#)
7. Inocando, A.: The Big One: Philippines Project a Death Toll of 34,000 from Possible Quake. *The Science Times* (2019) [Google Scholar](#)
8. Ruiz, A.: The 80/20 Data Science Dilemma. *InfoWorld* (2017) [Google Scholar](#)

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