Title: Roles of top management support and compatibility in big data predictive analytics for supply chain collaboration and supply chain performance.

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Abstract: A nation's economic growth is dependent on reliable, inexpensive energy. Bangladesh, which faces electricity shortages, intends to boost renewable energy alongside fossil fuels. Despite its small land area, the country's significant renewable resources, such as biomass, wind, hydro, and solar energy, look promise. With a concentration on solar insolation, rooftop panels emerge as an option. This study evaluates rooftop solar potential in a Bangladeshi municipal area using irradiance, area, PV module efficiency, and performance ratio analysis. By using the advanced tools such as PV syst and ArcGIS, the study determined a total irradiance of 4.65 kilowatts per square meter per day across an area spanning 48,000 square meters, encompassing 532 buildings. From various types of solar panels, the mono-Si demonstrated the highest efficiency, making it the most desirable option. This research output indicates that mono-Si PV panels have a substantial potential, with a maximum capacity of 15,738 MWh and a minimum potential of 8,389 MWh for Amorphous Si. This underscores the viability of adopting mono-Si technology to harness rooftop solar energy in the specified municipal area of Bangladesh.

Keyword: Rooftop Solar Potential, Mono-Si, Amorphous Si, Shading Effects, Renewable Energy.

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