In conclusion, EnergyOptima represents a significant advancement in optimizing energy consumption in smart buildings through the application of data analytics and machine learning. The software's ability to process real-time and historical data allows it to generate precise predictions and actionable recommendations for energy reduction while ensuring comfort and operational efficiency. The high accuracy rate of 92% in its predictions not only outperforms traditional methods but also highlights its potential for widespread adoption in the industry.Moreover, the user-friendly interface and customizable features enhance the user experience, making it accessible for building managers who may not be technically inclined. Feedback from users has been overwhelmingly positive, pointing to the program's effectiveness in identifying energy inefficiencies that might otherwise go unnoticed. However, the suggested improvements to the alert system indicate room for enhancement, which will be prioritized in future iterations of the software.The implementation of EnergyOptima in three commercial buildings serves as a promising pilot study, demonstrating its real-world applicability and impact. Future research could expand on these findings by comparing EnergyOptima with other commercial energy management systems, which would further clarify its position in the market. Overall, EnergyOptima not only contributes to the ongoing efforts to reduce energy consumption but also sets a foundation for the integration of smart technologies in building management. As we move towards a more energy-conscious future, solutions like EnergyOptima will play a crucial role in achieving sustainability goals.