WATER QUALITY ANALYSIS

PHASE 2: (INNOVATION)

Project Definition:

The project involves using IBM Cognos to analyzing water quality data to assess the suitability of water for specific purposes, such as drinking. The objective is to identify potential issues or deviations from regulatory standards and determine water potability based on various parameters. This project includes defining analysis objectives, collecting water quality data, designing relevant visualizations in IBM Cognos, and building a predictive model.

PROBLEM IN WATER QUALITY ANALYSIS AND SOLUTION

Problem Title : Determination of Microbial Contamination in Drinking Water.

Problem Description:

A municipal water supply agency has received complaints from residents about the quality of drinking water in a specific neighborhood. Residents have reported an unusual taste and odor in the tap watchemical er, as well as concerns about its safety. The agency is concerned about potential microbial contamination and has tasked you with conducting a water quality analysis to assess the extent of the issue.

STEPS TO SOLVE THE PROBLEM:

Sample Collection: Collect water samples from various points within the affected neighborhood's water distribution system. Take samples at different times of the day to account for potential variations in water quality.

Microbiological Analysis: Perform microbiological tests on the water samples, including the measurement of coliform bacteria, Escherichia coli (E. coli), and other microbial indicators. These tests will help determine if harmful bacteria are present in the water.

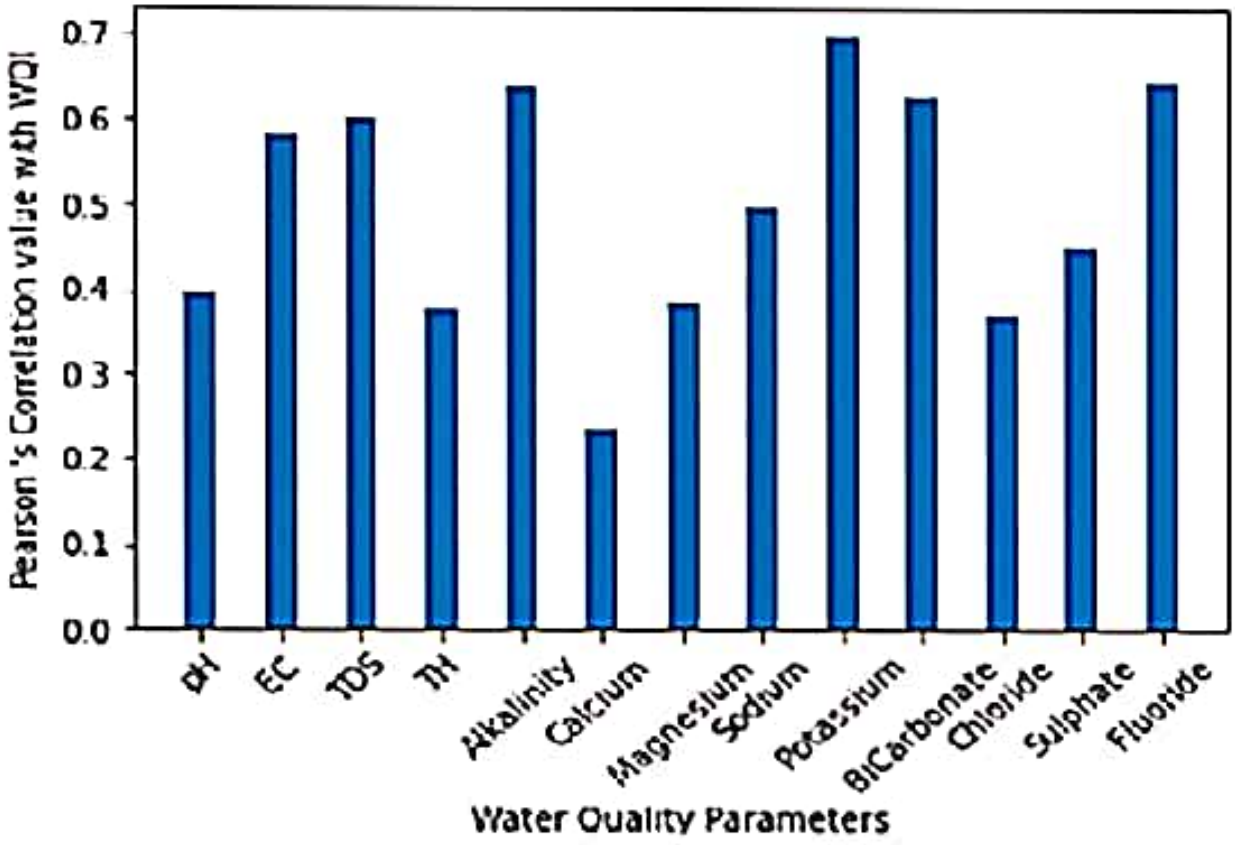
Chemical Analysis: Conduct tests to assess the water's physicochemical properties, such as pH levels, chlorine concentration, turbidity, and the presence of any disinfection byproducts (e.g., trihalomethanes). These tests can provide insights into water treatment effectiveness and potential sources of taste and odor issues.

Comparison to Regulatory Standards: Compare the results of your analysis to local and national drinking water quality standards and guidelines to determine if the water meets safety requirements.

Source Investigation: If microbial contamination is detected, conduct a source investigation to identify potential contamination sources in the water supply system (e.g., broken pipes, cross-connections, or inadequate disinfection).

Recommendations: Based on your findings, provide recommendations to the municipal water supply agency for corrective actions. This may include adjustments to water treatment processes, infrastructure repairs, or additional disinfection measures.

Communication: Prepare a report summarizing your findings, including data, analyses, and recommendations. Communicate the results to the affected residents and relevant authorities to address their concerns and ensure transparency.



CONCLUSION:

This problem focuses on assessing the quality of drinking water in a specific area and addressing potential microbial contamination issues. It requires expertise in microbiological and chemical water analysis, as well as knowledge of water quality standards and regulations.Problem Title: "Determination of Microbial Contamination in Drinking Water".

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