Remote vs On-site work: Uncovering the stress impact

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2024

Introduction

The purpose of this project is to analyze the impact of working conditions on employee stress levels. As modern workplaces evolve with the integration of remote and hybrid models, understanding how factors such as work location, hours worked, access to mental health resources, and job roles influence employee well-being has become crucial. This analysis aims to provide actionable insights that help organizations make informed decisions to improve employee satisfaction.

Workflow

This project follows a streamlined analytical workflow designed to transform raw data into actionable insights for strategic decision-making:

Fig 1- Workflow.

Objectives and Key Questions

This project aims to analyze employee data to uncover insights that improve well-being. By exploring different analytics approaches, we answer key questions that help guide decision-making.

Descriptive Analytics:

- How are stress levels distributed across different job roles, locations, and age groups?
- Which work environments (remote, hybrid, onsite) show the highest productivity levels?
- How specific factors in each region can influence stress levels?

Diagnostic Analytics:

- What factors (e.g., hours worked, sleep quality) are most strongly associated with high stress levels?
- Why do certain job roles or work locations experience higher levels of dissatisfaction?

Predictive Analytics:

- Which employees are most likely to experience high stress based on their current working conditions?
- Can we predict changes in productivity based on job role, work hours, and satisfaction?

Prescriptive Analytics:

- What interventions (e.g., flexible hours, mental health resources) can reduce stress and improve employee well-being?

Decisive Analytics:

- What is the best balance of work policies to maintain high productivity while minimizing stress?

ETL

The dataset comprises key variables that capture employee work conditions and wellbeing, including stress level, weekly hours worked, job role, satisfaction with remote work, and access to mental health resources. The ETL process, performed in Pentaho, ensures clean and structured data. Key steps include: 1. Extracting raw data; 2. Cleaning and transforming values; 3. Loading data into a PostgreSQL database for analysis.

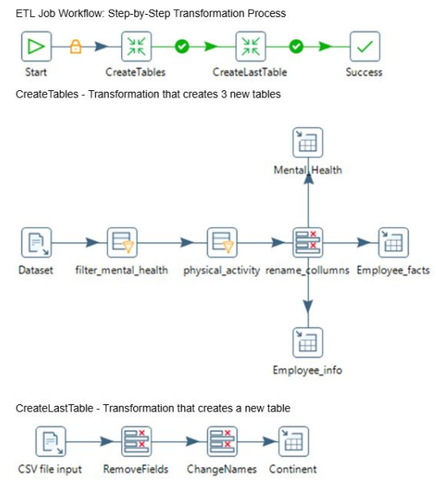

Fig 2- ETL workflow using Pentaho

Star Schema

The star schema organizes data for streamlined analysis. The Employee fact table holds metrics on stress and productivity, linked to dimension tables that describe employee characteristics, such as job role, region, and mental health factors.

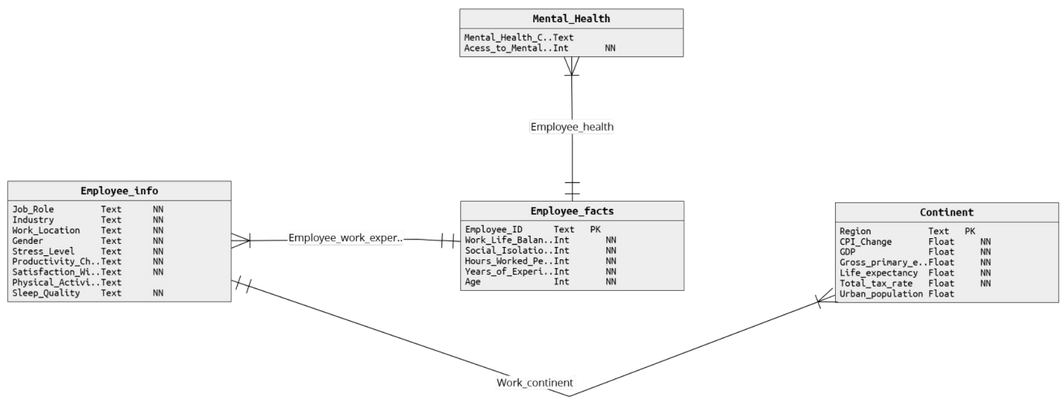

Fig 3- Star schema

Mockup & Tableau

The dashboard provides an intuitive interface to explore employee stress, productivity, and satisfaction through dynamic filters and visualizations. The charts are inspired by initial visualizations created in Tableau, providing insights into key factors affecting employee well-being.

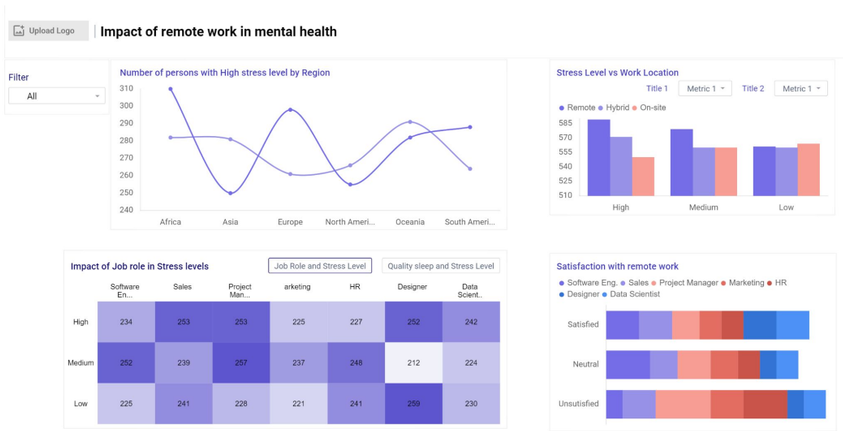

Fig 4- Mockup

Future Work

Expand the analysis to include additional variables and test predictions in different contexts, ensuring that recommendations are adaptable and effective in the long term.

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