ESG KPIs for Monitoring

Katsiaryna Bahamazava, PhD.

Mathematical department of Politecnico di Torino

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Introduction

- ESG (Environmental, Social, and Governance) KPIs help companies measure their performance in sustainable and ethical practices.

- This presentation covers examples of KPIs for Environmental, Social, and Governance aspects.

- We will also demonstrate how AI can predict KPIs using the turnover rate as an example.

Environmental KPIs

- **GHG Emissions**
    - Measures the total greenhouse gases emitted by the company.
    - Example: Reduce GHG emissions by 25% by 2025.

- **Energy Consumption**
    - Tracks the total energy used by the company from all sources (electricity, gas, renewable energy, etc.).
    - Example: Report total energy consumption in MWh annually.

- **Water Consumption**
    - Measures the total amount of water used by the company.
    - Example: Report total water usage in cubic meters annually.

- **Waste Generated**
    - Measures the total amount of waste produced.
    - Example: Report total waste generated in metric tons annually.

Social KPIs

- **Turnover Rates**
  - Measures the rate at which employees leave the company.
  - Example: Reduce turnover rates by 15% by 2023.

- **Percentage of Diverse Employees**
  - Tracks diversity in the workforce.
  - Example: Increase percentage of diverse employees by 20% by 2024.

- **Pay Equity Ratios**
  - Measures the pay gap between different groups.
  - Example: Achieve pay equity by 2025.

- **Number of Product Recalls**
  - Measures the number of product recalls due to safety issues.
  - Example: Maintain zero product recalls annually.

Governance KPIs

- **Board Diversity**
  - Measures diversity within the company's board.
  - Example: Achieve 40% board diversity by 2023.
- **Number of Ethical Training Hours**
  - Measures the total hours of ethical training completed by employees.
  - Example: Increase ethical training hours by 30% by 2024.
- **Number of Data Breaches**
  - Measures the number of data breaches the company experiences.
  - Example: Maintain zero data breaches annually.
- **Response Time to Data Breaches**
  - Measures the time taken to respond to data breaches.
  - Example: Reduce average response time to data breaches to under 24 hours.

Predicting KPIs with AI

- AI can be used to predict various company KPIs, improving decision-making and strategy.
- Example: Predicting employee turnover rate.

Predicting Employee Turnover with AI

- Use AI and machine learning to predict employee turnover rates.
- Key steps in the prediction pipeline:

Step 1: Data Collection

- Collect relevant employee data:
    - Demographic data (age, gender, marital status).
    - Job-related data (role, department, salary, tenure).
    - Performance data (job satisfaction, performance rating).
    - Work environment data (work-life balance, work hours).

Step 2: Data Preprocessing

- Clean and preprocess the data:
    - Handle missing values.
    - Encode categorical variables.
    - Scale numerical features.

Step 3: Feature Engineering

- Create new features if necessary:
    - Interaction terms.
    - Transformations of existing features.

Step 4: Model Training

- Train a neural network model:
    - Define the neural network architecture.
    - Compile the model with appropriate loss function and optimizer.
    - Train the model on the training dataset.

Step 5: Model Evaluation

- Evaluate the model using test data:
  - Calculate metrics such as accuracy, precision, recall, F1-score, and ROC-AUC.
  - Plot training history to observe performance over epochs.

Step 6: Prediction

- Use the trained model to predict turnover on new data.
- Implement the model into the company's HR management system for real-time predictions.

Conclusion

- Monitoring ESG KPIs helps companies improve sustainability and ethical practices.
- Setting clear goals and tracking progress is essential for achieving ESG objectives.
- Predicting employee turnover using AI demonstrates how AI can be used to predict other company KPIs.
- Regular reporting and alignment with standards enhance transparency and accountability.

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