ABSTRACT

This Final Project Report details the design and implementation of a data analytics system for Talent 360 data to support strategic decisions at PT Padepokan Tujuh Sembilan. Challenges include inefficient manual talent data management and difficulty matching skills to projects, hindering recruitment. The current system causes slow access, data errors, and poor data-driven decision support. This project aims to create an integrated, efficient, and measurable data-driven talent management system for systematic data management, accurate selection, and skill development. The solution is an end-to-end data pipeline: Google Sheets ingestion to a PostgreSQL data lake via Airbyte, processing to data warehouse/mart via Apache Spark, and daily automation via Apache Airflow. Data is presented on an interactive Streamlit dashboard. Features include talent overview, detailed search, primary/secondary skill and supply gap analysis, project analytics, assessment insights, allocation status, utilization rates, and career development recommendations. System quality is measured by technical performance (processing time, pipeline reliability) and usability. Testing with 30 users showed key task success rates >85% and perceived usefulness >4.0/5, demonstrating effectiveness. Despite suggestions for usability (navigation, complex visualizations) and data lineage improvements, the system successfully addressed challenges and provides a robust data-driven tool for talent management optimization.

Keyword: Data Analytics, Talent Management, Data Pipeline, Analytical Dashboard, Airbyte, Apache Spark, Apache Airflow, Streamlit, Strategic Decision Making.