ABSTRACT

IMPLEMENTATION OF DATA WAREHOUSE AND OLAP FOR SALES TREND ANALYSIS USING THE KIMBALL METHOD AT PT TEGUHWIBAWA SINAR LAUT TULANG BAWANG

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In the digital era, PT. Teguhwibawa Sinar Laut Tulang Bawang faces challenges in managing Increasingly diverse sales data. One of the recurring issues is inefficiency in product stock management, which often results in the company's inability to fulfill customer demand due to unavailable or depleted inventory. The absence of an integrated system also led to delays in sales trend analysis, ultimately hindering strategic decision-making and reducing the company's competitiveness. To address these issues, an integrated data warehouse system incorporating OLAP technology and the Kimball methodology was implemented. This system enables the company to manage sales data through multidimensional analysis and supports faster, more accurate decision-making. The methodology involved data extraction, transformation, and Toading (ETL) using Pentaho, data storage in a MySQL-based data warehouse, and OLAP analysis and data visualization using Tableau. The results indicated that the system successfully presented multidimensional sales trends, and identified best-selling products, key regions, and payment patterns, all visualized through Tableau dashboards. This supported management in making informed decisions and improving operational efficiency.

Keywords: Data Warehouse, OLAP, Kimball, ETL, Tableau, Sales