

**PENGEMBANGAN DASHBOARD BUSINESS INTELLIGENCE UNTUK
ANALISIS ARUS KAS OPERASIONAL DAN KINERJA KEUANGAN
PADA PERUSAHAAN MANUFAKTUR (STUDI KASUS: PT.
INDOCEMENT TUNGGAL PRAKARSA TBK)**

SARAH LAMTUA TOBING

ABSTRAK

Laporan keuangan konvensional yang bersifat periodik, statis, dan kompleks sering menyulitkan pemangku kepentingan dalam memahami kondisi keuangan perusahaan secara cepat dan akurat. Penelitian ini bertujuan untuk merancang dan mengembangkan dashboard Business Intelligence (BI) berbasis Metabase untuk memvisualisasikan tren arus kas operasional dan kinerja keuangan PT Indocement Tunggul Prakarsa Tbk secara interaktif, disertai mekanisme approval workflow untuk menjaga akuntabilitas data. Sistem dikembangkan dengan metode prototype menggunakan data laporan keuangan kuartalan PT Indocement periode 2016–2025. Data diproses melalui tahapan ETL ke basis data MySQL dan divisualisasikan di Metabase dalam bentuk grafik tren dan KPI yang mencakup indikator arus kas, profitabilitas, margin, solvabilitas, dan struktur modal. Aplikasi dibangun dengan Flask/Python sebagai backend dan diintegrasikan ke Metabase melalui secure embedding berbasis JSON Web Token (JWT). Pengujian Blackbox menunjukkan semua skenario valid, dan integrasi JWT berhasil menjaga keamanan akses sesuai peran pengguna. Dashboard yang dihasilkan mampu mengubah data keuangan kompleks menjadi informasi visual yang komunikatif dan dapat difilter sesuai periode, sehingga berpotensi mempermudah manajemen dalam mengeksplorasi tren dan indikator keuangan secara fleksibel, serta berpotensi membantu investor dalam menginterpretasikan kinerja perusahaan secara lebih efisien.

Kata kunci: Business Intelligence, Dashboard, Arus Kas Operasional, Kinerja Keuangan, Metabase, JWT, PT Indocement

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ABSTRACT

Conventional financial reports, which are periodic, static, and complex, often make it difficult for stakeholders to understand a company's financial condition quickly and accurately. This research aims to design and develop a Metabase-based Business Intelligence (BI) dashboard to interactively visualize the operating cash flow trends and financial performance of PT Indocement Tunggul Prakarsa Tbk, supported by an approval workflow mechanism to maintain data accountability. The system was developed using the prototype method with PT Indocement's quarterly financial report data for the 2016–2025 period. Data is processed through ETL stages into a MySQL database and visualized in Metabase in the form of trend charts and KPIs covering cash flow, profitability, margin, solvency, and capital structure indicators. The application is built with Flask/Python as the backend and integrated with Metabase through secure embedding based on JSON Web Token (JWT). Blackbox testing showed that all test scenarios were valid, and JWT integration successfully maintained access security according to user roles. The resulting dashboard is able to transform complex financial data into communicative visual information that can be filtered by period, and may potentially make it easier for management to explore financial trends and indicators more flexibly, as well as potentially help investors interpret the company's performance more efficiently.

Keywords: Business Intelligence, Dashboard, Operating Cash Flow, Financial Performance, Metabase, JWT, PT Indocement