

ABSTRACT

Muhammad Iqbal, NIM 7213550020 "Construction of an Expert Advisor with a Fibonacci Money Management Strategy Using the Ichimoku Cloud Indicator in Crude Oil Trading (XTIUSD) on MetaTrader 5".

Crude Oil (XTIUSD) commodity trading offers significant opportunities but is accompanied by high volatility and the challenge of trader psychological bias. Trading automation through Expert Advisors (EAs) is a solution to overcome inconsistency and improve execution discipline. This study aims to construct an Expert Advisor on the MetaTrader 5 platform that integrates trading signals from the Ichimoku Cloud indicator with the Fibonacci Money Management strategy to optimize XTIUSD trading. This study uses the Research and Development (R&D) method with a V-Model approach. The EA's performance was evaluated through two scenarios (H1 and H4 timeframes) using backtesting on 4 years of historical data (January 1, 2021 – December 31, 2024) and validated with real-time testing (August 22 – September 22, 2025). The results of the study show significant discrepancies: Scenario 1 (H1) was very profitable in backtesting (Profit Factor 1.46) but failed in real-time testing (Profit Factor 0.04), indicating a high potential for overfitting. Scenario 2 (H4) shows more stable backtesting performance (Profit Factor 1.72) and is profitable in real-time testing, albeit with a very limited sample size (1 transaction). The main conclusion is that the EA was successfully constructed, and the H4 timeframe (Scenario 2) proved to be more stable. However, the main weakness of the developed system is its strong dependence on bullish market conditions, where both scenarios only execute buy positions (long trades), making them unreliable for bearish or sideways market conditions.

Keyword: Expert Advisor (EA), Ichimoku Cloud, Fibonacci Money Management, Crude Oil (XTIUSD), MetaTrader 5, Algorithmic Trading.



ABSTRAK

Muhammad Iqbal, NIM 7213550020 "Konstruksi Expert Advisor Dengan Fibonacci Money Management Strategy Menggunakan Indikator Ichimoku Cloud Pada Trading Crude Oil (XTIUSD) Di MetaTrader 5".

Perdagangan komoditas *Crude Oil* (XTIUSD) menawarkan peluang signifikan namun diiringi volatilitas tinggi dan tantangan bias psikologis trader. Otomatisasi trading melalui *Expert Advisor* (EA) menjadi solusi untuk mengatasi inkonsistensi dan meningkatkan disiplin eksekusi. Penelitian ini bertujuan untuk mengonstruksi sebuah *Expert Advisor* pada platform MetaTrader 5 yang mengintegrasikan sinyal trading dari indikator Ichimoku Cloud dengan strategi Fibonacci *Money Management* untuk mengoptimalkan perdagangan XTIUSD. Penelitian ini menggunakan metode *Research and Development* (R&D) dengan pendekatan V-Model. Kinerja EA dievaluasi melalui dua skenario (Timeframe H1 dan H4) menggunakan *backtesting* pada data historis 4 tahun (1 Januari 2021 – 31 Desember 2024) dan divalidasi dengan *real-time testing* (22 Agustus – 22 September 2025). Hasil penelitian menunjukkan diskrepansi signifikan: Skenario 1 (H1) sangat *profitable* dalam *backtesting* (*Profit Factor* 1.46) namun gagal dalam *real-time testing* (*Profit Factor* 0.04), mengindikasikan potensi *overfitting* yang tinggi. Skenario 2 (H4) menunjukkan kinerja *backtesting* yang lebih stabil (*Profit Factor* 1.72) dan berhasil profit dalam *real-time testing*, meskipun dengan jumlah sampel yang sangat terbatas (1 transaksi). Kesimpulan utama menunjukkan bahwa EA berhasil dikonstruksi, dan *time frame* H4 (Skenario 2) terbukti lebih stabil. Namun, kelemahan utama sistem yang dikembangkan adalah ketergantungan yang kuat pada kondisi pasar *bullish*, di mana kedua skenario hanya mengeksekusi posisi beli (*long trades*), sehingga tidak kuat untuk kondisi pasar *bearish* atau *sideways*.

Kata Kunci: *Expert Advisor, Fibonacci Money Management, Ichimoku Cloud, Trading, Crude Oil (XTIUSD), MetaTrader 5.*

