

# FinWise AI - Complete User Manual

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## Overview

FinWise AI is a comprehensive financial intelligence platform that combines:

- **Real-time News Analysis** using NewsAPI
- **Market Data Analysis** using Alpha Vantage
- **AI-Powered Insights** using Cohere & Groq
- **Interactive Visualizations** and Conversational AI Assistant

## Key Capabilities

- Analyze any financial topic globally
  - Geographic-specific market intelligence
  - Custom date range analysis
  - Real-time market data processing
  - AI-powered sentiment analysis
  - Interactive chat assistant
  - Data export functionality
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## Quick Start Guide

## Step 1: API Key Setup

1. Navigate to Sidebar → "Configuration" section
2. Obtain Required API Keys:
  - **NewsAPI** - Free tier: 1,000 requests/day
  - **Alpha Vantage** - Free tier: 5 calls/minute, 500/day
  - **Cohere** - Free tier: 1,000 API calls/month
  - **Groq** - Free tier: High-speed inference

## Step 2: Quick Analysis with Presets

Use Quick Presets in sidebar:

- "Technology Trends - US"
- "Renewable Energy - Europe"
- "Healthcare Innovation - Global"
- "Cryptocurrency - Asia"
- "Climate Change Impact"

Click "Run Enhanced Analysis"

## Step 3: Explore Results

Navigate through the 5 result tabs:

1. **Overview** - Key metrics and headlines
  2. **News Analysis** - Sentiment analysis and articles
  3. **Market Analysis** - Financial data insights
  4. **AI Chat** - Interactive assistant
  5. **Visualizations** - Charts and graphs
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## API Setup & Configuration

### Required APIs and Their Roles

#### 1. NewsAPI ([newsapi.org](https://newsapi.org))

- **Purpose:** Fetches real-time news articles
- **Free Tier:** 1,000 requests/day

- **Paid Plans:** \$449/month for commercial use
- **Setup:**
  1. Register at [newsapi.org](https://newsapi.org)
  2. Verify email
  3. Copy API key from dashboard

## 2. Alpha Vantage ([alphavantage.co](https://alphavantage.co))

- **Purpose:** Provides stock market data, forex, crypto
- **Free Tier:** 5 API calls/minute, 500/day
- **Paid Plans:** \$49.99/month for 1,200 calls/minute
- **Setup:**
  1. Register at [alphavantage.co](https://alphavantage.co)
  2. Get free API key immediately
  3. No verification required

## 3. Cohere ([cohere.ai](https://cohere.ai))

- **Purpose:** Text embeddings for semantic search
- **Free Tier:** 1,000 API calls/month
- **Paid Plans:** Pay-as-you-go starting \$1/1M tokens
- **Setup:**
  1. Register at [cohere.ai](https://cohere.ai)
  2. Navigate to API Keys section
  3. Generate new API key

## 4. Groq ([groq.com](https://groq.com))

- **Purpose:** Fast AI inference for analysis
- **Free Tier:** Generous limits with high speed
- **Setup:**
  1. Register at [console.groq.com](https://console.groq.com)
  2. Create API key in dashboard
  3. Select model access

## API Key Security

- All keys are entered as password fields (hidden)
  - Keys are not stored permanently
  - Re-enter keys each session for security
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## Data Source Configuration

### Analysis Topic Configuration

#### Examples of Effective Topics:

##### Good:

- "artificial intelligence technology trends"
- "renewable energy solar wind"
- "healthcare biotechnology innovation"
- "cryptocurrency bitcoin regulation"
- "climate change environmental policy"

**Avoid:** Vague terms like "stocks" or "news"

### Geographic Focus Options

- **Global:** Worldwide coverage
- **Country-Specific:** 40+ countries supported including:
  - **Major Markets:** US, UK, Germany, Japan, China
  - **Emerging Markets:** India, Brazil, Singapore
  - **Regional Focus:** UAE, Switzerland, Canada

### Time Period Configuration

#### Quick Presets:

- **Last 7 Days** (breaking news focus)
- **Last 30 Days** (trend analysis)
- **Last 3 Months** (comprehensive view)
- **Custom Range:** Any date range up to current date

### Market Data Configuration

- **Stock Symbols:** Enter comma-separated (e.g., "AAPL, GOOGL, TSLA")

- **Regional Markets:**
    - **US:** S&P 500, NASDAQ, DOW components
    - **Europe:** DAX, FTSE, CAC 40 stocks
    - **Asia:** Nikkei, Hang Seng, BSE stocks
    - **Global:** International ETFs and indices
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## Analysis Configuration

### Basic Configuration

- **Topic/Theme:** Your analysis focus
- **Geographic Focus:** Target region/country
- **Time Period:** Analysis timeframe
- **Stock Symbols:** Relevant market instruments

### Advanced Options

- **News Language:** English, Spanish, French, German, Italian, Portuguese
- **Sort By:** Relevancy, Popularity, Published Date
- **Max Articles:** 20-100 articles (affects processing time)
- **Analysis Depth:**
  - **Quick:** Fast overview (5-10 minutes)
  - **Standard:** Comprehensive analysis (10-20 minutes)
  - **Deep:** Thorough investigation (20-30 minutes)

### Analysis Process

1. **Data Fetching (20%)** - Retrieve news and market data
  2. **Data Processing (30%)** - Clean and structure information
  3. **Embedding Generation (25%)** - Create searchable vectors
  4. **AI Analysis (20%)** - Generate insights
  5. **Visualization Prep (5%)** - Prepare charts and graphs
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## Understanding Results

### Overview Tab

- **Key Metrics:** Article count, market symbols, geographic scope
- **Latest Headlines:** Top 5 most relevant news articles
- **Data Quality Indicators:** Source diversity, time coverage

## News Analysis Tab

### Sentiment Analysis:

- Overall market sentiment (Bullish/Bearish/Neutral)
- Key themes and developments
- Geographic considerations
- Risk factors and opportunities

### News Data Table: Searchable table with:

- Article titles and sources
- Publication dates
- Direct links to full articles

## Market Analysis Tab

### Market Performance Analysis:

- Price movements and trends
- Volume analysis
- Comparative performance
- Technical indicators

### Market Data Table:

- Latest closing prices
- Trading volumes
- Price changes

## AI Chat Tab

- **Interactive Assistant:** Ask follow-up questions
- **Contextual Responses:** Based on your analysis data
- **Query Examples:**
  - "What are the main risks in this sector?"

- "Which stocks show the most promise?"
- "How does this compare to historical trends?"
- "What should I monitor going forward?"

## Visualizations Tab

- **Price Charts:** Interactive time series plots
  - **News Distribution:** Source breakdown and timeline
  - **Volume Analysis:** Trading activity patterns
  - **Correlation Analysis:** Cross-instrument relationships
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## Advanced Features

### Quick Analysis Presets

Pre-configured analysis templates for common scenarios:

- **Technology Trends - US:** AI, tech stocks, US market focus
- **Renewable Energy - Europe:** Green energy, European markets
- **Healthcare Innovation - Global:** Biotech, pharma, worldwide
- **Cryptocurrency - Asia:** Crypto regulation, Asian markets
- **Climate Change Impact:** ESG investing, environmental policy

### Data Export Options

- **JSON:** Complete analysis data structure
- **CSV:** News articles in spreadsheet format
- **PDF Report:** Coming soon - formatted analysis report

### Search and Filtering

- **Semantic Search:** Find similar content using AI
- **Geographic Filtering:** Focus on specific regions
- **Date Filtering:** Narrow down time periods
- **Source Filtering:** Filter by news sources

### Market Status Widget

- **Real-time Market Hours:** Shows if markets are open/closed

- **Time Zone Awareness:** Adjusts for your location
  - **Market Calendar:** Tracks trading days
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## Troubleshooting

### Common Issues

#### "Analysis failed: API Error"

##### Causes & Solutions:

- **API Key Invalid:** Double-check key format and validity
- **Rate Limit Exceeded:** Wait and try again, or upgrade API plan
- **Network Issues:** Check internet connection

#### "No news data available"

##### Causes & Solutions:

- **Topic too specific:** Try broader search terms
- **Date range too narrow:** Expand date range
- **Country limitation:** Some countries have limited news coverage

#### "No market data found"

##### Causes & Solutions:

- **Invalid stock symbols:** Verify ticker symbols
- **Weekend/holiday:** Markets may be closed
- **API limit reached:** Alpha Vantage has strict limits

#### "Error generating embeddings"

##### Causes & Solutions:

- **Cohere API limit:** Check monthly usage
- **Text too long:** System automatically truncates long articles
- **API key expired:** Regenerate Cohere API key

### Performance Issues

#### Slow Analysis Speed



## **Solutions:**

- Reduce Max Articles: Lower from 100 to 20-50
- Choose "Quick" Analysis Depth
- Limit Stock Symbols: Use 3-5 symbols maximum
- Avoid Peak Hours: APIs may be slower during peak usage

## **Memory Issues**

### **Solutions:**

- Browser Refresh: Clear session state
  - Reduce Data Volume: Smaller date ranges
  - Close Other Tabs: Free up browser memory
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## **Best Practices**

### **Effective Topic Selection**

#### **Good Topics:**

- "electric vehicle battery technology"
- "federal reserve interest rate policy"
- "pharmaceutical merger acquisitions"
- "renewable energy wind solar"
- "artificial intelligence healthcare applications"

#### **Avoid:**

- Single words like "stocks", "crypto", "news"
- Too broad: "economy", "market"
- Too specific: "AAPL Q3 earnings"

### **Optimal Analysis Configuration**

- **Date Range:** 30 days for trends, 7 days for breaking news
- **Geographic Focus:** Choose specific countries for regulatory analysis
- **Stock Selection:** 3-7 symbols for focused analysis
- **Analysis Depth:** Standard for most use cases

## Interpreting Results

- **Cross-reference:** Compare news sentiment with market data
- **Consider Context:** Factor in broader market conditions
- **Multiple Sources:** Verify insights across different data points
- **Time Sensitivity:** Recent data may be more relevant

## API Usage Optimization

- **Batch Requests:** Run comprehensive analysis less frequently
- **Peak Hours:** Avoid 9-11 AM EST (market open) for faster API responses
- **Cache Results:** Use export function to save analysis data
- **Monitor Limits:** Track API usage to avoid service interruption

## Security Best Practices

- **Never Share API Keys:** Keep credentials private
  - **Regular Key Rotation:** Regenerate keys periodically
  - **Monitor Usage:** Watch for unexpected API consumption
  - **Use Minimal Permissions:** Choose read-only API access where possible
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## Support & Resources

### Getting Help

- **Error Messages:** Read complete error messages for specific guidance
  - **Documentation:** Refer to this manual for detailed instructions
  - **API Documentation:** Check individual API provider documentation
  - **Community Support:** Engage with user communities for tips and solutions
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*This manual provides comprehensive guidance for using FinWise AI effectively. For the most current information and updates, please refer to the official documentation and API provider resources.*