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Intelligent Decision Support System for Recommendations and Analysis of Indian Stock Exchanges

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Abstract
While it is difficult to overestimate the importance of various computer-based tools that are relevant to decision making (e.g., databases, planning software, and spreadsheets), this article focuses primarily on the core of a DSS, the part that directly supports modeling decision problems and identifies best alternatives. In this paper we introduce "IDSS" a Web application providing recommendations and analysis in Equity and Derivatives traded on Indian Stock Exchanges In it we are combining the ancient wisdom of Astronomy and the modern technical analysis. we give it a touch of Technological advancements. and provide an ultimately useful and "simple to trade" recommendation to the clients. This paper describes Trading Strategies, Online Systems to provide trading Signals & Solutions to improve trade efficiency using technology to the fullest. Market movement and the response of masses with reference to Astronomical position of the sky and our zodiac system. Based on Astro-Dow technical analysis – in which zodiac positions are Observed and studied and technical signals, used in timing the trades.

I. INTRODUCTION
Financial astrology (also known as business astrology, economic astrology, and/or astro-economics) is the practice of relating the movements of celestial bodies to events in financial markets. The use of astrology in financial markets is not consistent with standard economic or financial theory, but might be considered heterodox economics. The practice of financial astrology carries the implicit belief that astrology is valid and influences human behavior. The scientific community considers astrology to be a pseudoscience. [3]

Information Systems (IS) today are designed with reusability in mind. They span multiple markets, enabling companies that design products to sell them to several different companies interested in gaining an edge with respect to the marketing of their products (Bakos, 1991). IS includes Advanced Decision Support Systems (DSS) that are able to assist businesses in making decisions about a market without the need for investing costly resources testing that market with product. The DSS can test and even predict the way in which a particular market will respond to certain products without the need to release those products into the market. IS scientists use databases with prediction models, and in some cases to model the healthiest market for a particular product or to create models for a particular market of interest [7, 10]

The aim of Stock Market IDSS is to explore that DSS in stock market. This will be done through the researching of short term market trading strategies, such as short term trading and penny stock trading. Finally the paper will consider the actual working of a stock market & based on astrological prediction with the goal to make the maximum profit with the minimum risk at the end to determine in which stock user can invest & explain any particularly good and bad trades. IDSS on Stock Market is a Stock market consulting firm providing recommendations for Individuals, HNIs and Institutions of the Indian Financial Markets. IDSS is a Multi-Functional Platform developed for the Stock Broking Community. IDSS would play three dimensional roles in Stock-Broking industry vice versa as a Research Manager, Client Relationship Manager & as a Reporting Platform. [12]

Bill Meridian is an internationally renowned financial researcher, fund manager, and designer of analytical software, including the first program developed for researching the correlation between time series data (including stock prices) and planetary cycles. Also, he compiled an authoritative collection of first trade charts for 1062 individual stocks in the 1998 edition of his book, Planetary Stock Trading. Meridian found that the astrological chart of the date of the initial trade in a stock correlates with subsequent

changes in the stock's price trend. His 55 case studies of widely held stocks show precisely how progressions and transits correlate with changes in price. Meridian's latest book, Planetary Economic Forecasting, correlates a monthly index of industrial production with planetary cycles over 200 years. His 1994 study of the effect of the lunar cycle on the DJIA was confirmed by an analysis at the University of Michigan in 2001. He also demonstrated a 3.8-year Mars cycle whose signals outperformed the market. [1]

II. SYSTEM ARCHITECTURE

Prices are the outcomes of volatile human expectations, shifting the supply and demand lines, and causing prices to oscillate. Fluctuations in prices are a natural process of changing expectations, thereby leading to cyclical patterns. There are many kinds of cycles, with the combined effect of driving movements in stock prices. There is no set stock price, so Institutions and traders can bid for and offer to sell stock at different prices and a balance between these determines the final stock price as set by the market maker. Stock Market prices fluctuate throughout the day depending on supply and demand. Bidders buy on the expectation that the stock price will go higher and sellers sell because they think the stock price will go lower. The stock market is a game of psychology between the bulls and bears that repeats it daily. [7, 16]

Traders, investment firms and fund managers use a trading strategy to help make wiser investment decisions and help eliminate the emotional aspect of trading. A trading strategy is governed by a set of rules that do not deviate. Emotional bias is eliminated because the systems operate within the parameters known by the trader. The parameters can be trusted based on historical analysis (back testing) and real world market studies (forward testing), so that the trader can have confidence in the strategy and its operating characteristics.

A. Trading Strategies

There are two ways to trade stock as an individual.

- The first is through a stock broker who is a professional economist who will advise you on what trades you should make based on his beliefs and his research. This method is good for a person who is just looking to make gains out of their savings with out to much work and risk. The down side to trading with a broker is that they take a percentage commission for every trade which can deduct from your earnings.
- The second way to trade is through an online trade website. This option allows for you to pay a flat rate for each trade that averages around ten dollars depending on amount of trades you make and how much money you have invested. The simplicity of trading online makes it very appealing to the everyday person. To start trading online all you have to do is sign up and then transfer money to that trading company and then you can buy and sell trades as you want. The downside for trading online is that for less experienced traders there is no individual guidance warning of bad trades. [12,18]

B. DSS Overview

Making decisions concerning complex systems (e.g., the management of organizational operations, industrial processes, or investment portfolios; the command and control of military units; or the control of nuclear power plants) often strains our cognitive capabilities. Even though individual interactions among a system's variables may be well understood, predicting how the system will react to an external manipulation such as a policy decision is often difficult. What will be, for example, the effect of introducing the third shift on a factory or? One might expect that this will increase the plant's output by roughly 50 percent. Factors such as additional wages, machine wear down, maintenance breaks, raw material usage, supply logistics, and future demand need also be considered, however, as they all will impact the total financial outcome of this decision. Many variables are involved in complex and often subtle interdependencies and predicting the total outcome may be daunting.

There is a substantial amount of empirical evidence that human intuitive judgment and decision making can be far from optimal, and it deteriorates even further with complexity and stress. Because in many situations the quality of decisions is important, aiding the deficiencies of human judgment and decision making has been a major focus of science throughout history. Disciplines such as statistics, economics, and operations research developed various methods for making rational choices. More recently, these methods, often enhanced by a variety of techniques originating from information science, cognitive psychology, and artificial intelligence, have been implemented in the form of computer programs, either as stand-alone tools or as integrated computing environments for complex decision making. Such environments are often given the common name of decision support systems (DSSs). The concept of DSS is extremely broad, and its definitions vary, depending on the author's point of view. To avoid exclusion of any of the existing types of DSSs, we will define them roughly as interactive computer-

based systems that aid users in judgment and choice activities. Another name sometimes used as a synonym for DSS is knowledge-based systems, which refers to their attempt to formalize domain knowledge so that it is amenable to mechanized reasoning.

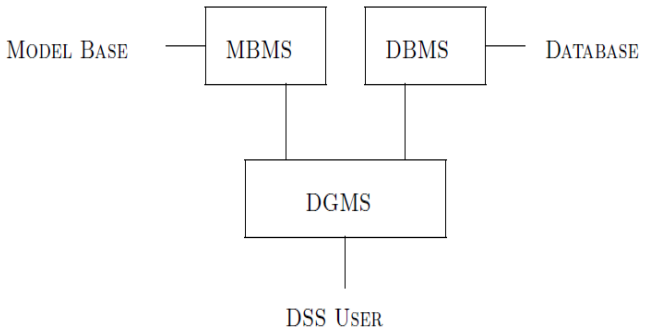


Figure 1: The architecture of a DSSs

Decision support systems are interactive, computer-based systems that aid users in judgment and choice activities. They provide data storage and retrieval but enhance the traditional information access and retrieval functions with support for model building and model-based reasoning. They support framing, modeling, and problem solving. Typical application areas of DSSs are management and planning in business, health care, the military, and any area in which management will encounter complex decision situations. Decision support systems are typically used for strategic and tactical decisions faced by upper-level management decisions with a reasonably low frequency and high potential consequences in which the time taken for thinking through and modeling the problem pays of generously in the long run.

C. Existing Systems

The financial astrology is one of the explanations for the cycle analysis, but they are not based on the study of market prices in the derivation of the cycles' numbers. W.D. Gann, a well-known trader in 1950s, is one of the pioneers to adopt financial astrology, namely the Jupiter-Saturn cycle, to facilitate his trading activities. Since Jupiter and Saturn are the biggest planets in our solar system, their gravitational pull is so strong that they cause the sun to shift periodically, based on Their positions around the true center of the mass of the solar system. Such shifts will cause the weather to change substantially, which will eventually affect commodity prices. As the commodity, bond and stock markets are interlinked; such effects will spread with spillovers into the bond and stock markets. [7]

Astrological literature accumulated over the past 4000 years could fill whole libraries. It was an important academic discipline taught in major universities until just a few hundred years ago. Today, astrology has fallen out of fashion on campus, but retains a wide following off campus. Few market technicians acknowledge any attempt to incorporate astrology into their work. Some unknowable number of large money managers takes an active but secret interest in the subject. Arch Crawford and Bill Meridian are the most prominent technical analysts who openly use astrology in their work. [1, 4]

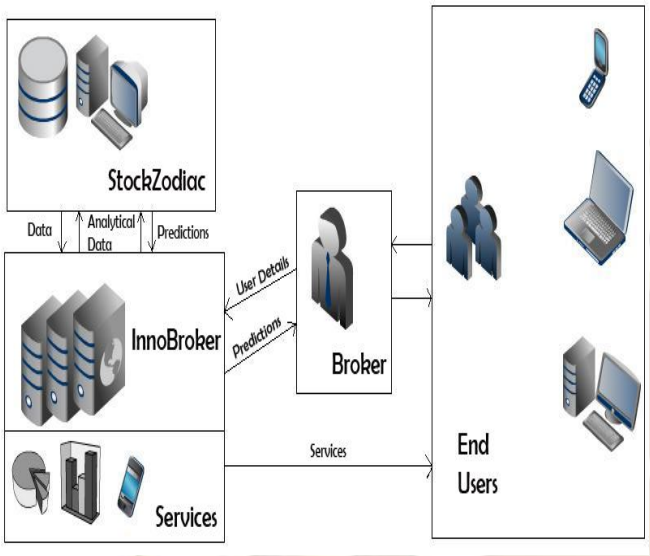
Arch Crawford has been named "Wall Street's best known astrologer" by Barron's Financial Weekly, based on his many uncanny predictions over the past 40 years. He is famous for calling the Crash of '87 months in advance, and he correctly predicted bear markets in July 1990 and March 2000. Crawford also has pinpointed in advance many minor trend change dates, such as the temporary [gold] bottom on April 4, 2001. And his forecasts extend beyond market turns. In his newsletter dated September 4, 2001, just seven days before the World Trade Center was hit in New York on 9/11, Crawford specifically identified steep drop in stock prices in days ahead. Crawford offers a popular investment advisory service focusing on market timing for the U.S. general stock market price indexes. [1, 2, 5]

Proposed System Design

The primary goal of this study is to predict the next logical and practical approach in the use of advanced Decision Support Systems (DSS) to find and evaluate markets for prospective products. In addition to determining these markets, DSS will then be used to predict the success of the market and other product lines that can be brought to those markets, making companies more successful in the structuring of marketing models and product lines.

Information Systems Technology (IST) is becoming a more prominent part of global marketing. With the aid of IST, companies can become competitive in all phases of customer relations. The use of information technology for finding markets is expanding, enabling companies to keep up with prospective markets in today's dynamic economy. IST accomplishes this feat by helping marketing departments determine targets for their products and charting the most effective way to cover the largest market in the shortest amount of time. They also enable marketing to establish trends

so that new products coming to market can be quickly evaluated and decisions made on the best placement for these products. [3, 16]



The IDSS is a web based system Combined with features of prediction of stock as well as Analysis the soul of the application is innobroker which is used for analysis. In which Client can register either to main website or through stock broker. Both way updates & predictions are available to clients on Mobile as well as through mails. Innobroker uses general mining algorithms for Data mining & patterns generation & astro-duo analysis is used at website for prediction. Website also uses an additional tool Ayan to monitor planetary positions. [6, 4]

III. ANALYSIS

A. Implementation

There are 3 main parts of the systems.

1. Stock zodiac :

Stock Zodiac is a consulting website providing recommendations and analysis in Equity and Derivatives traded on Indian Stock Exchanges.

Main features

I. Predicting major economic trends as they relate to certain cycles, specifically on the cycles of outer planets

II. Identifying the best date and time to buy or sell a stock

III. Correlating the Astrological aspect to the movement of stock market in day trading.

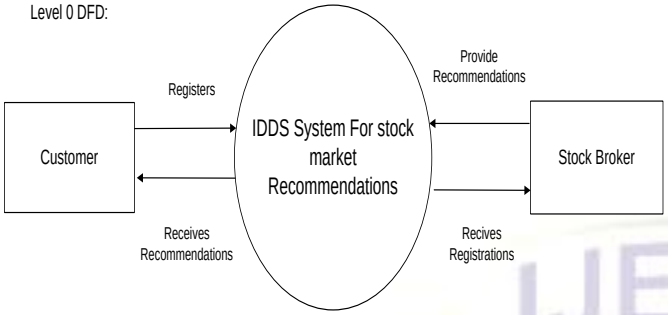
2. InnoBroker

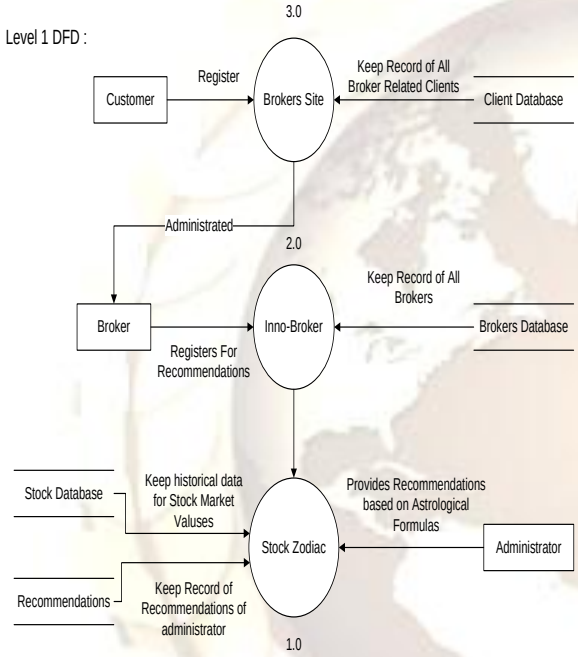
InnoBroker plays three dimensional role in Stock-Broking industry viz-a-viz as a Research Manager, Client Relationship Manager & as a Reporting Platform .

- Research Management
  - Information & Data Collaboration Platform for in-house research team.
  - End-to-end Research Delivery Mechanism.
  - Online Market flow monitoring & sharing systems.
  - Time Analysis & Other Research Reports

- Relationship Management
  - Client Management Platform that includes features such as Online Messaging.
  - Client Access including Profile Management.
  - Query Management.

- Reporting Platform
  - Cloud based 24x7 Reporting Platform integrated with your Back-Office Software.
  - Easy to use Client & Sub-Broker Access to Reports.





B. Statistical Analysis

Statistics has been concerned with detecting structure in data under uncertainty for many years:
refers to a collection of methods used to process large amounts of data and report overall that is what the design of experiments developed in the inter-war years had as its aims. Generally that gave a single outcome ('yield') on a hundred or so experimental points. Multivariate analysis was concerned with multiple (usually more than two and often fewer than twenty) measurements on different subjects

Note that structure is imposed in statistical pattern recognition via prior assumptions on the difference between signal and noise, but that structure is not deterministic as in structural pattern recognition. However, a practically much more important distinction is between

Unsupervised methods : in which there is no known grouping of the examples

Supervised methods : in which the examples are known to be grouped in advance, or ordered by some response, and the task is to group future examples or predict which are going to be give a 'good' response.

- Statistical analysis trends

Statistical analysis is particularly useful when dealing with noisy data. Statistical analysis provides ways to objectively report on how unusual an event is based on historical data. Our server uses statistical analysis to examine the tremendous amount of data produced every day by the stock market. We usually prefer statistical analysis to more traditional forms of technical analysis because statistical analysis makes use of every print. Candlesticks, by comparison, throw away an arbitrary number of prints before the analysis starts. statistical methods to survey and analyze financial and economic data to discover such a method of simplification. Using Principal Component Analysis, we will combine related factors into a smaller number of key components largely responsible for the variations observed. Then, using Discriminant Analysis, we will develop a model for separating companies into two categories based on their predicted stock performance: good and poor investment choices.

C. Experiment

Long-Term Cycles

This study was first published in 1985 and is updated here. When this cycle first came under scrutiny, analysts attributed the phenomenon to the four years in the presidential cycle.
According to David McMinn, (Financial Crises & The 56-Year Cycle, Twin Palms, Blue Knob 2480, Australia), 1 56-year cycle has been established in trends of U,S. and Western European financial crises since 1760 (Funk, 1932; McMinn, 1995). Mills (1867) speculated that the "mental mood of businessmen tends to run in cycle." Throughout economic history, generations of human beings appear to repeat cycles of manic optimism and depressed pessimism. Crises occur when there is a sudden shift in sentiment from greed to fear. The 56-year cycle correlates closely with cycles of the sun and moon. It is well established that these cycles have a direct impact on planet earth and all its life forms, including human beings. The sun and moon directly impact the following earthly phenomena: gravitational pull causes tides in the sea,

atmosphere, earthquake and volcanic activity; weather; magnetic and electromagnetic energy fields; the four seasons; the 24-hour day; reproduction, molting, and many seasonal changes in the photo period (variation in hours of daylight); and gravity affects biological tides of bodily liquids in life forms, and that may impinge on physical functions and emotions.[1, 5]

IV. CONCLUSIONS

We have proposed a system to analyze the stock market database & give the recommendation of stock markets with help of expertise of trading experts. To increase user-friendliness we have used simpler software for developing it. The GUI is also kept very simple so as to improve user involvement while doing transactions with the end site. We have implemented a Module called InnoBroker which uses "Statistical Analysis" to analyze the stock patterns.

As the commodity, bond and stock markets are interlinked; such effects will spread with spillovers into the bond and stock markets. Astrological literature accumulated over the past 4000 years could fill whole libraries. It was an important academic discipline taught in major universities until just a few hundred years ago. Today, astrology has fallen out of fashion on campus, but retains a wide following off campus. Few market technicians acknowledge any attempt to incorporate astrology into their work. Some unknowable numbers of large money managers take an active but secret interest in the subject.

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