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# Trading systems

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## ABSTRACT

All technical indicators suffer from limitations which makes it impractical to use the buy and sell signals they generate blindly for trading. On the other hand, a knowledge of limitations could enable the analyst to distinguish when the signals produced by some indicator are more likely to be correct.

Further, not all indicators suffer from the same limitations. While one indicator is generating incorrect or ambiguous signals, another indicator may well be more reliable, just because it is not subject to the problems and limitations of the first.

This means that the judicious use of different indicators in combination, should result in improved trading performance.

The procedures which govern the selection and interpretation of indicators, and also the way signals are translated into buy or sell orders, constitute a trading system. A trading system has the advantage of improving discipline, the most important single ingredient of successful trading.

Complex trading systems extend well beyond mere technical analysis, and could well include economic analysis and portfolio theory.

Every technical indicator has its own enthusiastic supporter group in the technical community. Usually, supporters will sustain their enthusiasm despite intermittent poor performance of an indicator, even though it may cost them money. This faith in the success of the concerned over the longer term may be misplaced. No objective evaluation has as yet shown that any indicator has the consistently high rate of success over the long term to justify anyone following its buy and sell signals blindly.

One indicator may do well for a period of time, generating signals that prove to be profitable. Later, the quality of the signals from that indicator may deteriorate, and become unprofitable. Investigation usually reveals that during periods when an indicator generates good signals the market conforms to a consistent pattern of behaviour.

The consistent behaviour is usually a sustained general trend, or a cyclical pattern with relatively constant cycle period, and sufficient amplitude to ensure good profitability.

Later, when the nature of the market's behaviour changes, indicators suddenly fail to repeat their earlier performance. An indicator may even become counterproductive, generating poor signals so that trading losses are incurred while the new pattern of behaviour lasts.

For example, moving averages in respect of suitable periods may generate successful signals when the market is oscillating with a cycle period that is at least twice as long as the period of the average. However, the amplitude of the oscillations must be large enough to meaningfully exploit the indicator.

Major trend reversals at the extremes of oscillation should also be relatively smooth, not jagged, or the incidence of false buy and sell signals would increase to uncomfortable levels.

In good trending markets, moving averages would do well to keep the trader full invested during a bull market, and completely out of a sustained bear market.

Momentum indicators, such as stochastics or RSI, too, may generate good signals during an oscillating market, where

reversals occur as relatively smooth changes in trend. However, in trending markets, a momentum oscillator may be sensitive to the gradient of the indicated trend. Even a slight flattening of the gradient during a sustained bull or bear trend, for example, may cause momentum indicators to generate a premature sell or buy signal, respectively.

A false sell signal during a bull market may cost a trader the opportunity of making a larger profit. On the other hand, false buy signals during a sustained bear market can also be costly.

Some indicators are good at detecting trend reversals, while others are more suitable for identifying a ruling trend. Volume, interpreted in conjunction with other indicators, may improve the reliability of the signals. These different factors can be put to use by the trader. The combination of two or more indicators into a trading system, enable a trader or investor to capitalise on the strong points of each indicator and to compensate for any deficiencies.

Two considerations are essential when designing the trading systems.

One should only include indicators when one has confidence in their principles of operation, and in one's ability to use and interpret the signals they generate. Secondly, the signals must never be arbitrary; their generation and interpretation must be carefully defined as part of the specifications of the trading system.

Should a trader lack confidence in an indicator, its inclusion in a trading system could cause complications, and make interpretation more difficult without really improving the signals produced by the trading system. Despite careful specification for the interpretation of an indicator, quality may suffer. Traders should discount signals generated by particular indicator, in favour of signals from other indicators in the trading system.

The demand for specific user procedures may be justified on the following grounds. Firstly, when rigorous rules are applied, discipline may be improved, reducing the influence of subjective opinion, tips and market rumours.

Secondly, strict obedience to the system's procedures will provide a consistent base for the measurement and evaluation of its performance. Consistency, and the recording of pertinent data will make it possible to identify the reasons for unprofitable decisions, and thereby to effect improvements to the trading system.

Strict reliance on procedures do not mean that trading system should be static. As the sources of poor decisions are identified, and rectified, and as the trader learns more about the indicators concerned, the system should change to reflect new knowledge.

A trading system need not be designed purely around technical indicators, and neither does, not should it only answer the question of which share to buy or sell.

For example a sophisticated trader may well require a comprehensive trading system to answer such questions as

- \* Which market(s) should be considered?
- \* What fraction of available capital should be invested/traded in each market?
- \* What should be the time horizon and profit target of the average – perhaps even individual – transaction in each market?

Only after answers to these questions have been obtained, can a trading system provide the detail of which share, futures index or gilt to buy or sell.

Because of rules which make bear sales on the JSE difficult, many people view an equity bull market as the only practical opportunity to trade or invest in shares. An overbought market, such as that experienced since 1991, leaves traders with no option but to hold cash, or to exploit other markets such as the capital and money markets, or even the markets for indices and futures.

Trading systems can range from unsophisticated systems, used by private investors to speculate in shares, to highly complex systems which could include elements of economic analysis and portfolio theory.

A study of the performance of private and professional investors or traders reveals that the single most important cause of a poor decision is the lack of discipline. From reliance on hunches, to short cuts in decision making which disregard some important factors, or the failure to validate a piece of information – these, and many other mistakes, including the influence of greed that drives one to seek larger than reasonable returns irrespective of risk, could be easily rectified if decisions were made with the required control.

Of course, every individual would require a trading system tailored to his or her needs. Each person presents a unique combination of profit expectations, risk profile, available capital, knowledge, fundamental and technical skills that should all be accommodated in a trading system. No two people have similar abilities, and exactly the same requirements. Therefore no two people should even try to use the same trading system.

Ideally, a trading system will evolve over time. At the time of first entry into a market, the novice trader should establish some basic ground rules to guide decisions – including the use that must be made of technical analysis. Over time, as experience grows, the system too should grow in sophistication and complexity to suit the requirements and abilities of the particular individual.

However, in practice, there are probably few examples of such evolution that has occurred right from the start. A number of patently wrong decisions, and the pain of paying for the losses that result from these, seem to be required before individuals can accept the need for a disciplined approach to trading and investment.