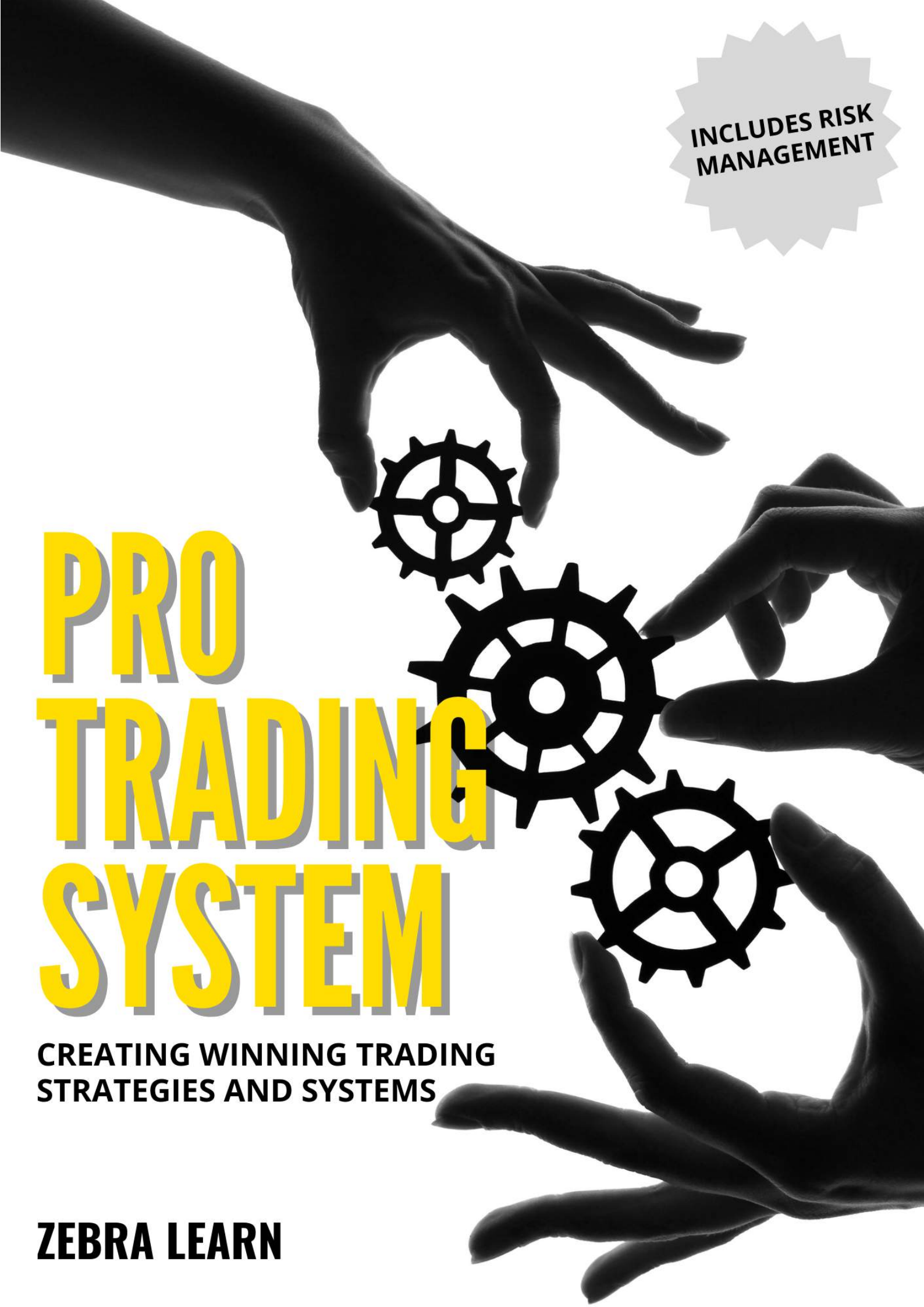


PRO TRADING SYSTEM

CREATING WINNING TRADING STRATEGIES AND SYSTEMS

ZEBRA LEARN

Table of Content

INTRODUCTION

Congratulations on making it here! So far, we have gone through various analytical tools to conduct technical analysis. We have used different candlesticks patterns, learnt to enter and exit based on different moving averages, indicators and oscillators, and about using price and volume data to increase our conviction on trades. Next, we also took a look at different chart patterns and their utility. Lastly, we also studied quite a deal about pyramid theory.

We expect that a learner would have gone through these charts in practice as well. He would have explored or will explore each of these in great detail in real-world charts too. However, so far we have used all these tools individually. We have seen that individual trade and profit and loss means nothing. It is all about our ability to replicate winning trades and systematically reduce loss-making trades. Only upon overcoming this, do we become a technical analyst and a trader. Without a systematic approach, we are just like a child playing darts – some throws randomly hit, while the rest are a miss. We will focus on creating a trading system for ourselves.

We will focus on understanding trading systems and their progression. We will use multiple analytical tools to create strategies. Multiple strategies put together in a systematic manner form a trading system. Let us understand each part of this progression in greater detail.

ANALYTICAL TOOLS

Analytical tools are all the indicators and tools that we have discussed so far. Each tool tells us a particular fact about the price and volume movement of the asset. We employ each of these tools to help us determine if it is the bulls or the bears that have better control over the market. Each tool has its strengths and weaknesses.

STRATEGIES

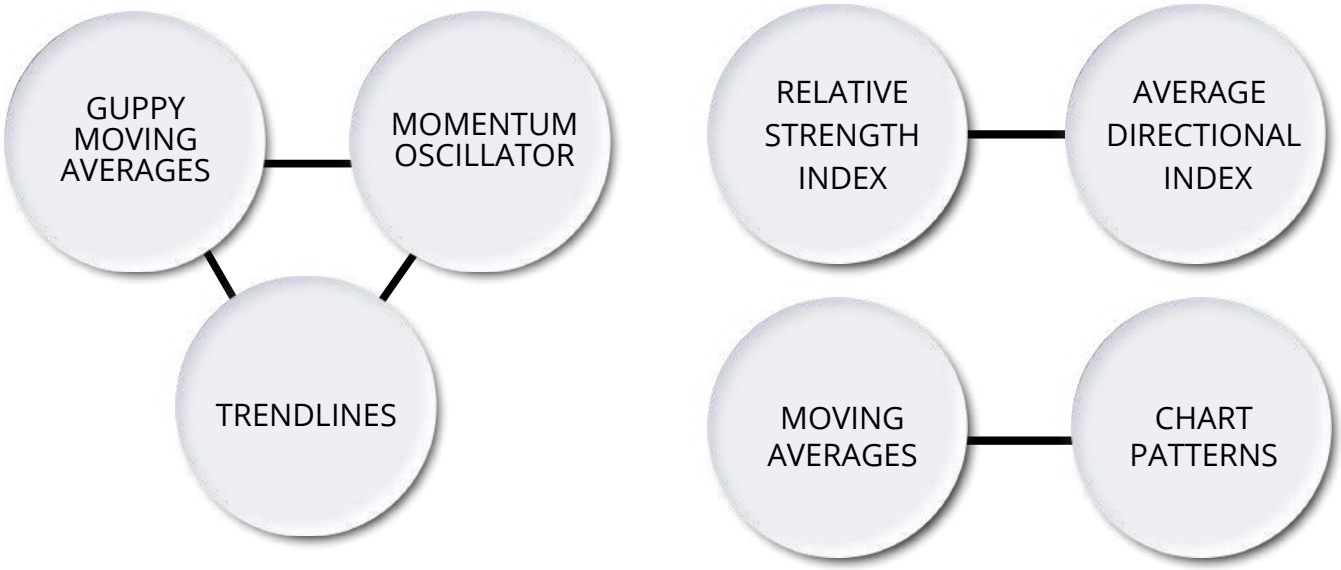
We are now aware of a variety of analytical and each of them has pros and cons. No indicator exists in the world that can exactly point out the direction in which the market is headed with 100% accuracy and one that works in all circumstances and all kinds of market. As a result, we will combine various analytical tools to determine fixed entry and exit points based on the circumstances and price movement. We will create multiple strategies using different combinations of analytical tools. Creating strategies require a lot of backtesting, evaluation, trials, and efforts.

SYSTEM

We will use multiple trading strategies together to form a trading system. We do not form multiple trading systems. We assess the kind of strategies we will be using in different kinds of market, the kind of indicators to be used in an uptrend market, downtrend market, and sideways market and the effectiveness of multiple strategies. We will then device ways to manage risk and allocate capital to different strategies.

CREATING A STRATEGY

We have learnt to emphasize on creating a trading system. The building block of a system included building strategies. Let us understand the different elements required to create a working and effective strategy. The different elements required include the following-



WHAT INDICATORS WE WILL BE USING?

The very first thing that we need to figure out when creating a trading strategy is the combination of analytical tools that we will be using. We can use a combination of RSI and ADX. We can use a combination of moving averages and chart patterns. We can use guppy moving averages, momentum oscillator and trendlines together. We can use any combination as we like to create such strategies. At times we can also use just a single indicator and not in combination with multiple averages. This selection of indicators requires a lot of creative effort and trial and error as well.

WHEN WE WILL ENTER?

The next element is to define rules that help us determine the point at which we will enter into a trade. We will pre-determine the circumstances to enter a trade. More importantly, we will also define rules when we are unable to enter a trade despite a particular formation. For instance, we say that we will never enter any trade whenever ADX is below 25. So, no matter whatever happens with other indicators that we use, we will never enter trade if ADX is less than 25.

WHEN WE WILL EXIT?

The next element is to determine when and how we will exit a trade. This means defining the rules that determine the point in time when we will square off our position in case of both profit and loss. This includes determining profit booking levels as well as stop losses. Every trade doesn't need to have a profit booking level. However, it must have stop losses to help in risk reduction. We will understand these in detail going ahead when we talk about risk management.

WHAT ASSETS WE WILL BE USING?

The next step when creating strategies is to decide upon the kind of assets and the universe of assets we will be using. This means we have to determine if we will primarily trade in large caps and indices or along with mid and small caps and if we will be trading with currencies and commodities. We also have to decide upon trading either using actual assets or futures and options market. The reason we fixate on assets is that each category behaves differently and one strategy will not work for all situations.

HISTORICAL UPSIDE - DOWNSIDE SIZE

The next element is about testing the efficiency of the strategy. So, here we need to determine the amount of profit or loss booked for all our past trades. The result of this is established by back-testing. We then proceed to find the average loss in each loss-making trade and average gain in all profit-making trades.

WHAT IS THE HIT RATIO?

The next element is to determine the hit ratio of the strategy. This refers to the number of times the strategy has yielded a profit and the number of times it has resulted in a loss. For example, out of 40 trades in back-testing, a strategy yields 25 profit-making trades and 15 loss-making trades. So the hit ratio is 62.5% (25/40).

IS STRATEGY SUSTAINABLE?

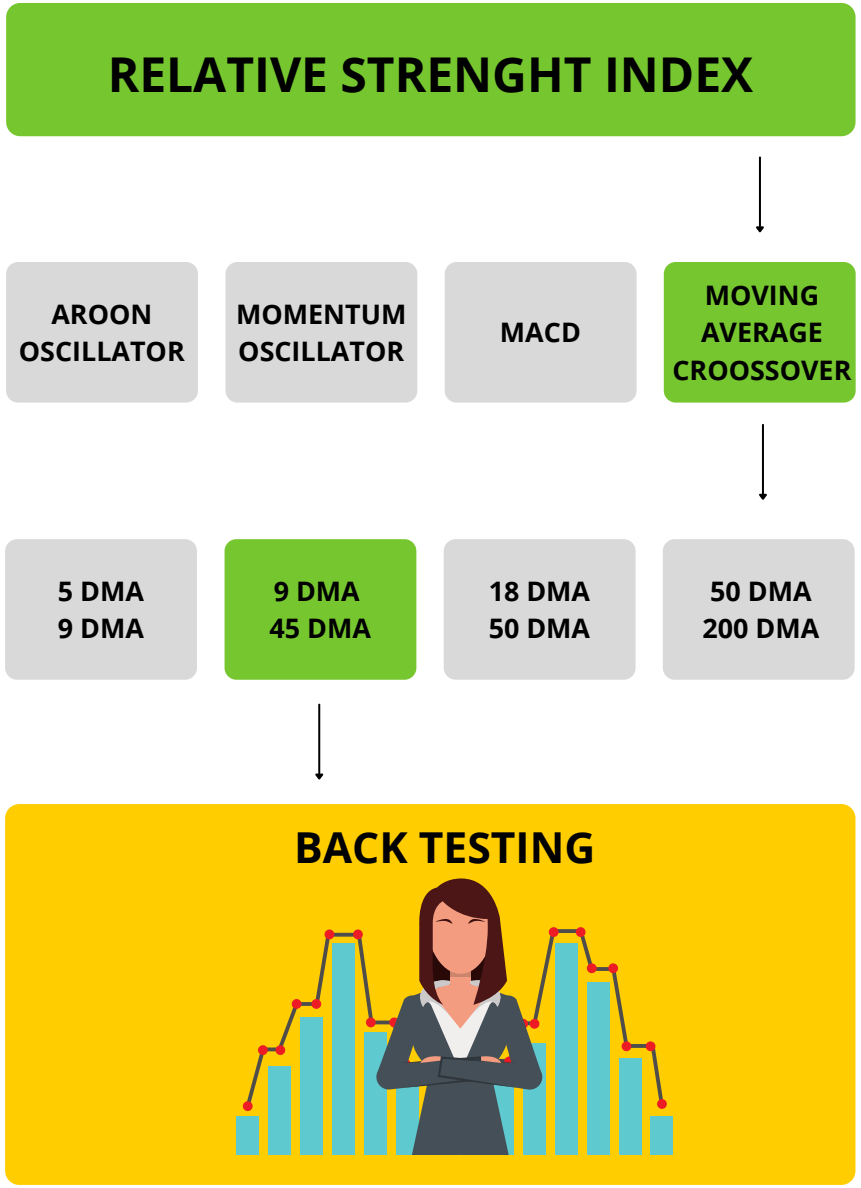
The last element is to determine whether the strategy is sustainable or not. We will derive this by use of historical upside and downside and hit ratio together. So, we know our average profit and loss, and we also know the frequency of profit and loss. We can convert the same into this-(Profit Making Trade %×Average Profit) + (Loss Making Trade %×Average Loss). Here profit-making trade % is 62.5% (25/40) and loss-making trade is 37.5% (15/40). If the net result is positive, we can say that the strategy is sustainable on its own.

The very first phase of creating a strategy is determining the indicators that we will be using. It is a very creative process and involves a lot of trial and error in doing the same. We have already understood the logic behind every analytical tool and the pros and cons. We will use them in combinations based on logic and trial and error. We will have a difficult time doing this if we have not spent enough time understanding the tools or spent time practising those.

Let us take an example. We saw that RSI entering the oversold and overbought zone is a good leading indicator of an upcoming reversal. The downside of the same is that RSI does not produce clear entry and exit signals. Moreover, there are times when RSI can stay in the oversold and overbought region for a while. So, we need another indicator that gives clear cut entry and exit signals following the leading signals and does so, only when actual reversal has taken place. So to do this, we try multiple different tools. We try Aroon oscillator, momentum oscillator, MACD etc. We then try moving average crossovers and they seem to be working the best in such a scenario. We then spend time understanding what time horizons to use for the crossover and let us say we agreed on 45 DMA and 9 DMA.

So, in this strategy, we have finalized upon the use of RSI and then crossover of 45DMA and 9DMA to enter and exit the trade. Using these, we have identified entry and exit. The next thing that we will do is back-test the same and estimate the results if this was used on the historical data. Estimate the average losses and profits and then the hit ratio.

We have finalized one hypothesis i.e. one projected strategy that should work logically. Whether it works or not, will only be determined by the results of back-testing. However, this way we keep on creating multiple such hypotheses and keep backtesting them. Commonly, more than 90% of such hypothesis will get rejected. However, the one that is left can be used by us for a very long period of time. So, we see how we can use different combinations of tools, test them and then validate which strategies to use.



We combine the RSI indicator with moving averages. We see RSI in overbought and oversold as a leading indicator and then look for crossover in next N sessions. If the crossover occurs, we will go long or short on the asset. We do not know whether this will work or not and if so, then the kinds of markets it will play out in. To figure that out, we will backtest and then count this as a strategy or not based on results.

We combine guppy moving multiplier with ADX. We only want to enter trades when the directional movement has force. So, we will only enter trades when ADX>25. If GMMA gives signals in such a time, we will commit to it. We will avoid crossovers when ADX<25.All of these are creative ideas that have to be tested. We can have as many trial and error circumstances as we want to create strategies based on which we intend to trade.

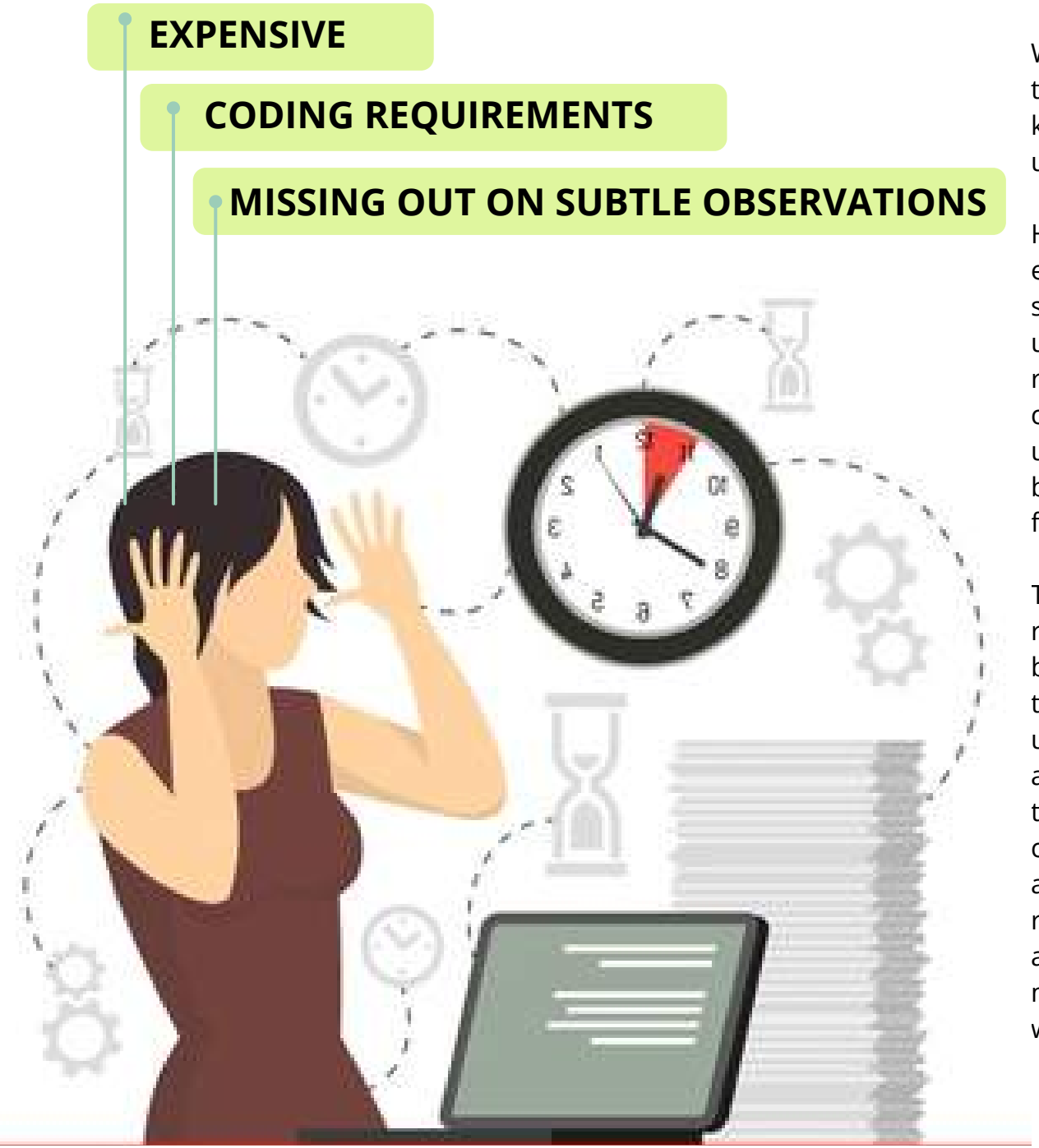
This is again a combination of moving averages and money flow index. This works in a manner that is similar to RSI and moving averages. MFI gives leading indicators and on following these if we get moving average crossovers, we can enter or exit the trade. We will learn how to backtest these strategies. We see the formation of strategies is a very creative process.

This is a plain vanilla price chart used in combination with volume-related data. We see at times our strategies can be simple and one can only use one technical tool instead of a combination of many. The bottom line is that the strategy should be sustainable and profit-making on its own. We can use a combination of any number of tools and any combination to achieve this.

It is interesting to see the combination of moving average crossovers with Doji formation. The two highlighted bars are Doji formations on the chart. We will consider a strategy where there is a Doji formed and a moving average crossover occurs in the next 7 or 8 periods.

We can deploy any combination of analytical tools that makes sense together. It is a creative process to come up with such ideas and we will accept or reject the same by conducting backtests. There are no right answers here. Whatever we think, we can plot in on the graph and check the same. Focus on the combination that is being used and the logic behind it. The logic should make sense.

Now once we have hypothesized a strategy, the next thing is to check the same. We have been referring to back-testing these strategies quite persistently. So, to back-test a strategy, there is software where we can code our strategy and check the potential outcomes in the last N years, had we used the strategy. This is the way how expert traders back-test their strategies. Based on the test, the test result has the following details –



With all this data, we can determine the strategies that seem to be working. We can then check the strategy on different kind of assets and also for different kinds of markets – upwards, sideways and downwards.

However, the software that we mentioned are at times expensive and also require the trader to learn basic coding skills. Furthermore, the trader does not have a complete understanding of the nature of the strategy since a direct result is thrown up without the trader going through the charts. This means the trader does not have a complete understanding of the nature of the strategy and how it can be improved. The positive side of this is that it is extremely fast and gives us the result within minutes.

To overcome the above limitations i.e. expensive, coding requirement and missing out on subtle observations, we will begin with back-testing strategies manually for a while. The testing might be much slower but it will enhance our understanding of the charts and the strategy many folds. As a result, it is strictly recommended for beginners to put in the time to back-test strategies on their own. Later on, they can experiment with the software to do it automatically. The advanced version is relatively complicated and is beyond the reach of this book. Here, we will stick to checking it manually as we will want learners to get as efficient as possible. To manually check whether the strategy is working or not, we will follow the following steps-

1. Define the entry and exit strategy accurately and strictly. There should be no room left for subjectivity. For instance, we determine that the ADX should be greater than 25 and there should be a crossover between 9DMA and 45 DMA. So, we will enter all trades only when this condition is satisfied. Similarly, we will also fixate on an exit signal. We will exit whenever the 9DMA crosses back 45 DMA, for instance.

2. Next, we will go back to a particular date on the chart. The day or time should at least be a 1000 candles back. So, if we are using a daily chart, we will at least go back 5 years. In the case of a 5-minute chart, we will go back at least 30 days.

3. Next, we will move ahead one day at a time and whenever the entry signal we mention comes to pass, we will enter the trade. We will then take the exit when the exit signal hits.

4. Irrespective of losses or profits, we will go ahead one day at a time and list down all the trades that we take and whether we make a profit or loss in each trade.

5. Once we have this list ready, we can calculate all the metrics mentioned on the previous page. We can calculate the hit ratio, average profit %, average loss %, drawdown and so forth. The result will tell us whether or not the strategy is working.

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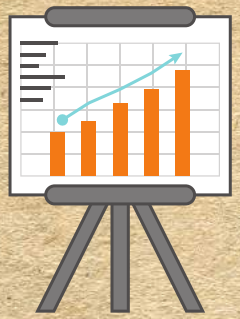
DETERMINE ENTRY & EXIT STRATEGY

2



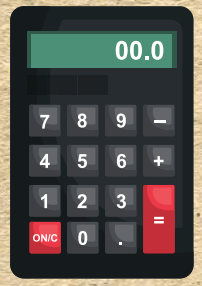
GO BACK TO A PARTICULAR DATE ON CHART

3

ENTER IN A TRADE

LIST DOWN THE TRADES

4



CALCULATE THE METRICES

5

By doing it manually, we also get additional insights about the scenarios in which the strategy works and otherwise, the improvements needed and the kind of markets it is best suited for. We will back-test all strategies this way.

Most of the strategies will get rejected based on the results generated in backtesting. We will see that most of them do not add up and the value of Rs. 1000 will go down after some time. An important point here is to make sure that we reflect the impact of brokerages on each trade. Let us say our brokerage is 0.1% every time we buy and sell an asset. So, we will make sure that we deduct 0.1% x 2 = 0.2% from the result of every trade that we entered while back-testing the strategy.

Very few strategies will pass this process. But the ones that do, are now ready to be tested in the market. These are generally ones that seem to be working. So, we will now try to apply these strategies in the market with a very small amount for a few months (2-3 months). We will try with amounts that are insignificant to our overall portfolio and experiment with them. If the results here too seem to be fine, then we will take the strategy and get it into our trading system. We will have to now make changes to our system to accommodate the new strategy that we have added.