Chapter 5: The Art of Strategy Design – In Theory

I have refined a standard procedure that I use to work my way through the process of creating a strategy. We will start with the big picture and make increasingly more detailed decisions about the strategy. We will begin with the major assessment of what type market action we want to trade and what kind of trader we want to be. We will end up with making decisions on exits, and how far away to put our money management stops.

Pick the Market Type

Again, the first decision you must face is what type of market action you want to trade. Although on the surface this may look like an easy decision, in fact, it is a difficult judgment. The reason it is difficult is because most new traders only consider one aspect, profits. They simply try to pick the strategy that makes the most money. Unfortunately, focusing on the money will probably lead you to make the wrong decision. It is the psychological aspect of trading each of the market types that is the most important consideration. Keep in mind that it does not make any sense to create a very profitable strategy that you are unable to trade psychologically.

HUMAN NATURE

I always tell traders who are having difficulties that to trade well you have to trade against your human nature. You must buy when everyone is selling and sell when everyone else is buying. If you think about it, the market is simply the sum total of all actions made by millions of human decisions. These decisions reflect human nature.

Researchers have found that 95% of all traders lose money. If we accept this to be true, then almost all of those millions of decisions will ultimately be wrong. As these decisions move the market, the market reflects human nature, and if 95% of the traders are losing money, it is clear that to make money you cannot trade like everyone else. If everyone else is trading as human nature demands they must, to be successful you have to trade against human nature, your human nature.

The most profitable trades I make usually feel like losers when I put them on. Taking these trades always goes against my human nature. For instance, many years ago I used to day-trade the S&P futures. On one particular day I had suffered a string of six losing trades in a row and had experienced a drawdown in excess of $11,000. This was an extremely difficult day and I was ready to quit when with 45 minutes to go in the day I got another signal. What I really wanted to do was to throw my computer out the window and go home. There was no reason to put on another losing trade. Why throw more money after bad? I was not a masochist! The market was choppy all day and I surely was not going to make any money on another useless trade.

At this point however, I decided that if I did nothing else for the day, at least I would take all of the trades my strategy gave me. If the strategy lost money, then I would have to change the strategy, but I never wanted to say that I did not have enough discipline and stamina to implement the strategy I had developed, even though my instincts told me this next trade would be financially stupid.

So I took the trade, and vowed to take every subsequent trade until the market closed. I was not going to follow my inclination and quit. I would assess the strategy after the markets closed, not during market hours. During market hours, my only job was to implement the trades.

Well, the market exploded into one of those end-of-the-day moves that lasted until the closing bell. Not only did I made back all of the day's losses, I ended up with an $8,000 profit for the day!

Many people were trading the trend this particular day. Trend traders had built up large losses in a very choppy market and most of us simply gave up. Just when we were ready to give up, the market moved. Those who gave up missed the big move. The human thing to do, the financially conservative thing to do was to quit and preserve money for another day. The people that made money traded against their human nature and stuck it out. It was a very difficult thing to do, but I learned a great lesson on that day.

I learned that to trade the trend effectively you must be able to make the hard trades. The market will push you to your psychological limit before it gives you the profit. It will make sure that all the weak players are gone before it gives those that remain the big move. You need to make sure that you are not one of the weak traders.

The other lesson is, don't try to trade a market type that is impossible for you to implement. If you can't see yourself trading through a situation I just described, or you have been in one or several just like it and had trouble or quit, then trend trading probably is not for you. It is better to recognize early what type of markets you are capable of trading and accept it rather than to lose a lot of money finding out.

THE THREE TYPES

If you recall from Chapter 3, there are three types of market action: trending, directionless and volatile. The first decision you should make is which type of market action you will chose to trade. You might want to review Table 1 in Chapter 3, which sets out the characteristics of each of the three types of strategies.

Whether you are a new trader or an experienced trader, I would suggest either a trend strategy or a volatility strategy. Either you choose a trend strategy, with the knowledge that you are going to have to trade through extended periods of drawdown in the directionless phase, or you choose a volatility strategy that will give you extended periods of doing nothing while you wait for the next trade. Which one is for you?

Choose Your Trading Time Frame

Now that you have made the decision as to what type of market action you will trade, you now face the decision as to what time frame you will trade. This decision is important because the answer has financial implications as well as life-style ramifications.

FULL TIME OR PART TIME

The first decision you need to make is whether you will trade intra-day. For most people this is a decision that means trading full time. It is very difficult to have a day job and trade intra-day. It is not totally impossible, just very difficult. Generally, I would recommend that you not trade intra-day unless you can devote your full attention to the task.

Most people want to trade part time and still hold down a day job. If you want to do this, it is better to trade daily or weekly charts. You will only be able to look at the market after hours, and your strategy design will have to take this into account. The strategy should not require you to check the market during the day.

The financial implications of time frames are harder to get your arms around. I believe that there is only a certain amount of money that you can get from the markets. This money, if you trade correctly, can be understood as profit per bar. That is, there is only so much money to make per bar. Thus, the more bars you can trade, the more money you can potentially make.

Taking this concept one step further, trading intra-day is potentially more profitable as there are more bars condensed into a unit of time. For instance, in a month on the S&P futures, there are 280 30-minute bars, 20 daily bars, and 4 weekly bars. There is potentially more money in the 30-minute charts than the daily charts, and potentially more money in the daily charts than the weekly.

Financially then, to make $10,000, it should take less time on the 30-minute chart (perhaps two weeks), than the daily chart (perhaps one month) than the weekly chart (perhaps 4 months). When trend trading on 30-minute charts, you may trade through 5 or 10 days of directionless market before the relatively big move occurs, on a daily chart, the chop may last six months or longer, and on the weekly charts the sideways market could last for years.

The risk per trade is generally greater with the longer time frames as well. Most entries and exit orders are based on market action. If you are putting an exit order below the low of the previous bar, this could be 50 points on a 30-minute chart, 600 points on a daily chart and 2000 points on a weekly chart. The difference in risk is substantial, but the reward should be proportionally as large.

Time frame choice is a personal decision, and of course there are no right answers. The ultimate decision is personal preference influenced by financial considerations. But make this decision before you start looking for indicators, as the choice of indicators is influenced by the time frame selection.

Design and Chart Your Indicator(s)

WHERE TO GET IDEAS

Where do you get ideas for strategies? There are numerous sources, including seminars, books, newsletters, friends, and strategy purchases. I've found that most good trading ideas are counter-intuitive. The techniques that usually make money seem to go against basic human nature, just like managing a strategy forces you to keep trading against your usual judgement and human nature to be successful. The reason for this is that most people look for ideas that feel good and make sense. If the ideas that made sense and felt good to trade worked, everyone would make money, and we know they don't. It is finding unique ideas and using common techniques in different and creative ways that will make you a successful trader.

BOOKS AND MAGAZINES

Trading books are a good source of ideas. There are always books available that describe a bunch of new or improved indicators and show how to use them. I am always skeptical about the "how to" part of the book, but it is a great place to start. I like to use indicators in my own way, but I usually chart the indicator and test it as the author has suggested. This inevitably gives me a starting point for a whole slew of ideas from which to do my own research.

Magazines are another great place to find ideas. There are several good magazines for commodity traders and some for stock traders.

THE INTERNET

There is a lot of information about trading both stocks and futures on the Internet. If you are not hooked up to the Internet, you should be. If it isn't already, the Internet will soon be the most extensive resource for trading information.

PURCHASE A STRATEGY

Yes, you also can purchase a strategy. They are always available. You can find them in the magazine classifieds, and if you have been trading for any length of time, get pitches for strategies in direct mail. And of course there are the Omega Research Solution Providers, who provide strategies and indicators specifically for TradeStation. So how do we sort through these?

Strategy purchases are a valid way to get ideas, if, and only if, the strategy code itself is disclosed. If the code is not disclosed, you really are at the mercy of the strategy designer.

The important thing to remember about purchasing another person's strategy is that you are also buying all of that person's personal decisions about risk. You are buying a strategy designed to take into account all of another person's psychological quirks and decisions about how trades should be made. They have made decisions as to how many losers in a row are acceptable, how big a drawdown is reasonable, what percentage profitable trades are acceptable to him, not you. You are buying his strategy type and his decisions about what is the best way to trade it.

Unless you are positive that your psychological make-up is very similar to that of the individual who designed the strategy, you are bound to have a problem trading that strategy. I have talked to many traders who have purchased profitable strategies but have been unable to trade them.

I purchase strategies for ideas. If the strategy itself is a black box, that is the strategy and its code is not disclosed, I simply refuse to buy it unless the developer can give me enough information so that I can be sure it meets my criteria. For instance, is it possible that this strategy could miss a big move? I also insist on seeing a historical track record in TradeStation format before I will consider buying a strategy. I want to make sure the Performance Summary reflects something that I will be able to trade. I will not trade anything that I do not completely, totally and thoroughly understand.

SEMINARS

Going to seminars given by individuals or even to the mega-seminars with a whole group of gurus is always fun. One or two good ideas are worth the price of admission. Seminars are also fun because you get to meet other traders and bounce ideas around with them. Many traders I know go to seminars more for the camaraderie and discussions with other traders than for the seminar itself.

One of my favorite places to get ideas is a Larry Williams[4] seminar. They are loaded with TradeStation code and strategy ideas. The idea per dollar ratio is the highest that I have found anywhere.

DESIGN THE INDICATOR

One major source of ideas for your strategy will be indicators. Indicators are the backbone of any strategy. In TradeStation, you will find indicators in the Indicator

Library. Many of the standard industry indicators are found here, and you should plot them on a chart and look for yourself.

What you will find is that, while not all, most indicators are price based. What I mean by price based is that most indicators are calculated by using some number from a price bar: the open, high or low, but most likely the close. If you look at them on the same chart, they look very similar. Take a look at Chart 1.

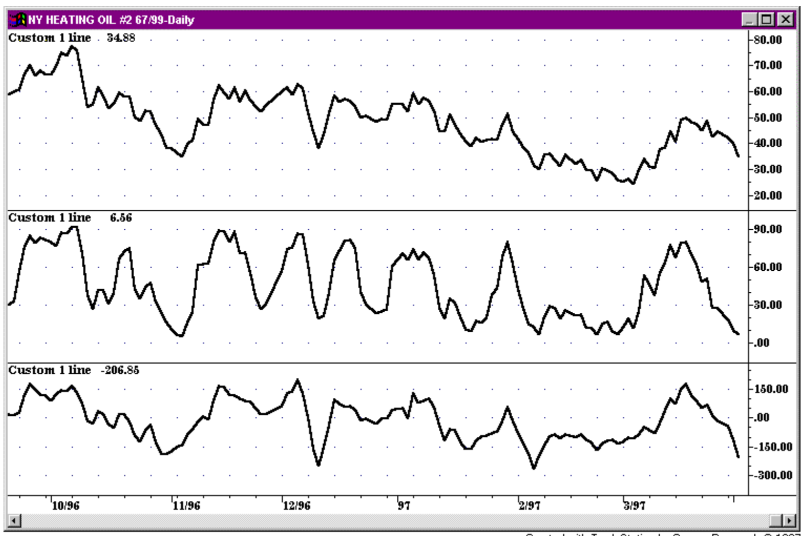

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Chart 1

Top:RSI

Middle:Stochastic

Bottom: CCI

Chart 1 shows three indicators that are based on price. There are obvious differences but for the most part they all look about the same, don't they? These indicators are plotted straight from the TradeStation Indicator Library.

What I want you to understand from Chart 1 is that most indicators that are based on the same prices, in this case the close, look about the same. Many new traders try to combine indicators that are based on the same data. This leads to unnecessary redundancy and duplication.

When you consider combining and using multiple indicators in a strategy, try to combine indicators that are based on different prices. For instance, you might combine an indicator based on the close with an indicator based on volume, or with one based on volatility.

Almost any price activity can ultimately be made into an indicator. All you need to do is create a line with quantifiable data and give it a name.

OSCILLATORS

Oscillators are simply the difference between two indicators, most likely different lengths of the same basic indicator. The easiest oscillator to understand is the difference between two moving averages.

The procedure to make two moving averages into an oscillator is to calculate and plot the difference between the two moving averages. The oscillator will "oscillate" over and above the zero line, which represents the price at which the two moving averages are equal.

The top of Chart 2 shows the two moving averages, with the short moving average moving above and below the long. The bottom of Chart 2 shows the same data but as an oscillator rather than the averages.

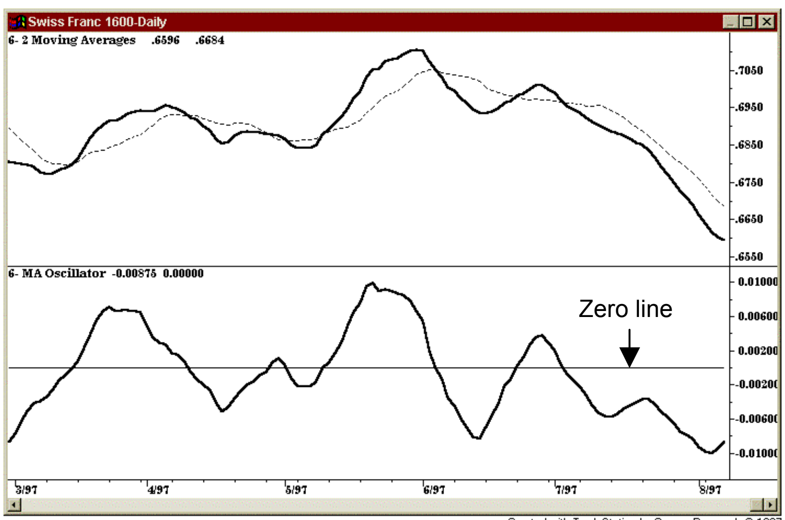

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Chart 2

TradeStation EasyLanguage
Indicator: 2 Moving Averages

```
Input: Price(Close),Length1(9),
Length2(18);
Plot1(Average(Price,Length1),
"SimpAvg1");
Plot2(Average(Price,Length2),
"SimpAvg2");
```

Indicator: MA Oscillator

```
Input:Price(Close),Length1(9),
Length2(18);
Value1 = Average(Price,Length1)
- Average(Price,Length2);
Plot1(Value1,"MA Osc");
Plot2(0,"0");
```

If you imagine taking the long moving average and stretching it out so it is straight, and then plotting the short moving average "oscillating" above and below the straight long moving average, you produce the lower chart. In fact the zero line is actually the long moving average.

In Chart 2, if you were to buy the market when the short average crossed the long in the top graph, it would be the same as buying the market when the oscillator crossed above the zero line in the bottom graph.

You can make any indicator into an oscillator by producing a moving average of the indicator and calculating and plotting the difference. For instance, we could make the RSI an oscillator by calculating the RSI and a moving average of the RSI and plotting the difference.

PRICE PATTERNS

In addition to indicators and oscillators, there is a third type of trading idea that is commonly used and that is price patterns. The idea is that you identify specific price patterns and trade them. An easy pattern to understand is consecutive closes. You might want to test buying the market after three consecutive up closes and sell after three consecutive down closes.

This is a simple pattern, but you can make them as complex as your imagination will allow. For instance, we could formulate a buy signal after an up-down-up pattern. That is: today's close > yesterday's close, yesterday's close < the close of the day before, and that close is greater than the previous close.

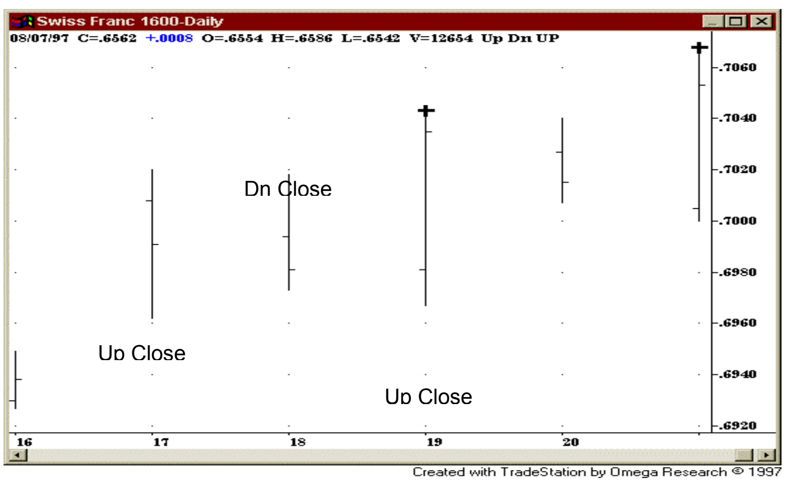

Chart 3

TradeStation EasyLanguage ShowMe: Up Dn Up

```
Condition1 = Close > Close[1];
Condition2 = Close[1] < Close[2];
Condition3 = Close[2] > Close[3];

If Condition1 and Condition2 and
Condition3 then
        Plot1(High,"UDU");
```

I wrote this chart pattern as a TradeStation ShowMe study and applied it to a chart. Chart 3 shows where the ShowMe study has marked two occurrences of this pattern; the marks are the little crosses on the high of the bars. This pattern is a potential set-up. Or, given another set-up, this pattern could be used as an entry.

I have talked to experienced traders who spend a lot of time trying to find profitable patterns (Larry Williams used to teach this in his seminars). They are constantly devising new patterns and testing them in TradeStation. The patterns are generally used as the set-up and they then use either a market order, if the close is in the direction of the trade, or a stop order if it is not. But we know that no matter what we use as an entry, it must meet our two entry rules.

UNCONVENTIONAL THINKING

If I can give you only one piece of advice for using indicators, it would be to use them in unconventional ways. I always try to devise unusual and different ways to use conventional indicators. Remember, if the common indicators made money when used in conventional ways, everyone would be making money. And we know that most people are not making money. Your greatest ally in strategy development will be to devise new and creative ways to use indicators, ways that go against human nature. If you are able to do this, you will have moved a long way towards developing a winning strategy.

Write the Criteria as a ShowMe Study

Once you have found your indicator, oscillator or pattern, the next thing you should do is write it as a ShowMe study in Easy Language and plot it. I do this for several reasons. First, it is much easier to see a situation graphically than it is to simply describe it. Second, we tend to overlook the negative occurrences of a situation and focus only on the positive. Let's talk about each of these.

VISUALIZATION IS THE KEY

When I first started developing strategies, there was nothing like TradeStation available. I had to do it all by hand. I literally would mark ShowMe studies by hand on charts. This was to get a visual look at what I had conceptualized. Many times, just one look would cause me to reject the idea as unworkable. Other times however, the indicator or pattern would look good or would spawn a whole new round of ideas once I saw what my idea actually looked like.

In this case, a picture is really worth a thousand words. There have been countless cases where I have fixed poor strategies with changes that I have found using ShowMe studies. If you look at Chart 3, you can see that it is much easier to visualize the pattern when marked, and assess its strengths and weaknesses then, than it is to write this immediately into a strategy and test it.

THE MIND PLAYS TRICKS

Generally, the way I start with ideas is to look at charts and find examples of what I want to do. Invariably, my mind will pick out all of the situations that work but inevitably it will miss the same exact pattern in situations where the pattern failed. Whether this is wishful thinking or just missing the obvious is irrelevant, and it happens more than I would like to admit.

Producing a ShowMe study is a good means of protection. It saves me from making mistakes, helps me to develop new ideas, and helps me keep my mind from playing tricks on me.

Let's look at an example and you'll see what I mean. In Chapter 4, Profile of a Winning Strategy, I mentioned a chart pattern called a key reversal. If you recall, an up key reversal is a bar in which the low of the current bar is lower than the low of the previous bar, but the close of the current bar is higher than the close of the previous bar. The theory is that this bar indicates an attempt by prices to continue lower but instead they have reversed and closed higher, which denotes a change in trend. If we take a look at some charts, we can see that almost every big bottom occurs on a key reversal. Chart 4 shows an S&P futures chart. I have noted some important up key reversals on this chart.

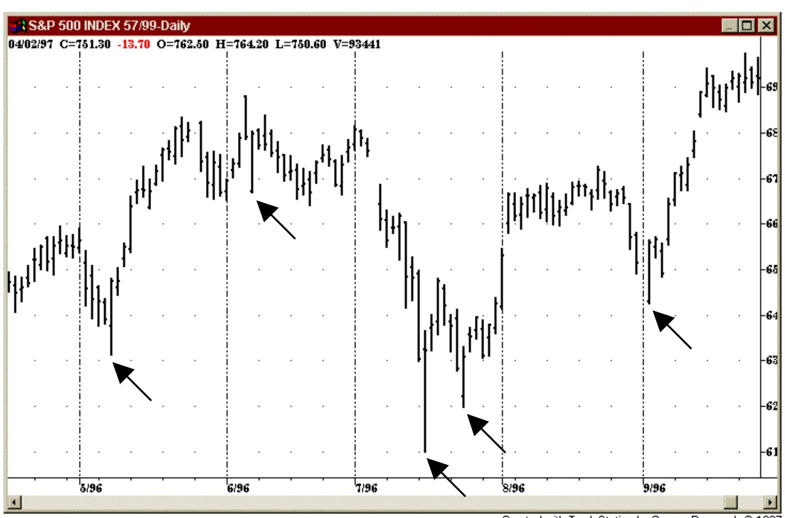

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Chart 4

Up Key Reversal ("UKR")

If you look at the marked up key reversals, you will see that they occur at each of the three major bottoms on this chart. It is easy to conclude that we should figure out some way to buy the market at up key reversals. It would get us in at the major bottoms.

To check our market savvy, let's write a ShowMe study marking all of the up key reversals on this chart. Chart 5 shows this ShowMe study applied to a chart.

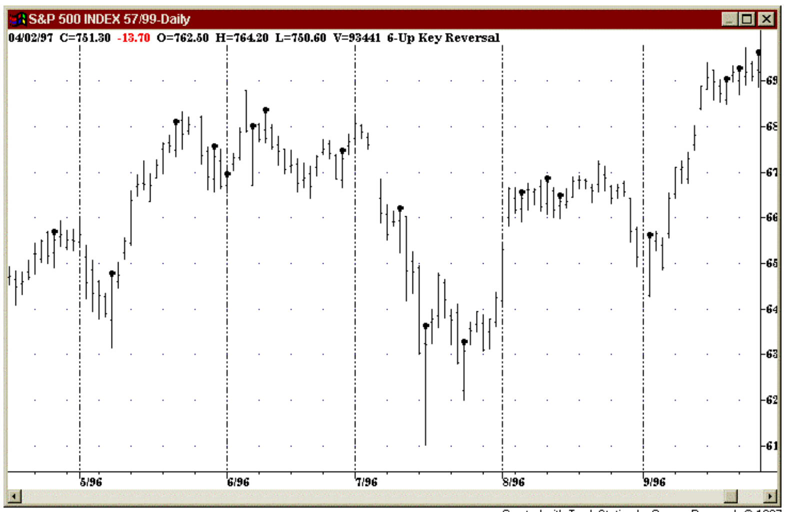

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Chart 5

<u>TradeStation EasyLanguage Show-Me: Up Key Reversals</u>

```
If Low < Low[1] and Close > Close[1] then
        Plot1(High,"UKR");
```

In addition to the up key reversals I marked in Chart 4, there are many more that I missed. In fact, some of the ones I missed were potential big losers if you used them for buy signals. I was right about one thing: that up key reversals generally appeared at major bottoms. However, I made another assumption that was wrong. I assumed that the presence of an up key reversal means that a major bottom is occurring. We now know from the ShowMe study that while up key reversals can occur at bottoms, bottoms don't necessarily occur at every up key reversal.

Modify Ideas based on ShowMe Study

Now that we know that ShowMe studies can help us find indicator and strategy idea design flaws, we can refine our idea by modifying the ShowMe study. We can brainstorm for new ideas by changing the ShowMe criteria to better meet our initial idea. You will be able to let your imagination and creativity loose to try all of your ideas. TradeStation will plot your ideas with the objective view of an unbiased observer.

For instance, in the case of the up key reversal, we might want to make sure that the market is in a downtrend or at a bottom area before we consider the up key reversal as a set-up. We might use an indicator such as the RSI or Stochastic to filter out up key reversals that occur in up-trends. Or, we might require the low of the up key reversal bar itself to be lower than the last 6 to 10 bars before we use it. There are so many different ways you can modify this technique that I can't even begin to list them.

The main idea here is to use the ShowMe studies to modify the indicator or pattern, even before you start writing the strategy. We want to make sure that the indicator is producing the signal as we had it in mind and not something else. Many times we will get something else. I would estimate that more than half of the time, the way that I have originally written my idea in EasyLanguage does not produce exactly what I had in mind. It usually takes me several iterations before I get it right. I would rather go through this process with a ShowMe study. Then, when I start writing the strategy, I already have the EasyLanguage instructions for my idea.

Write Alerts to Simulate Trading

The next step, particularly if you are trading intra-day, is to write an alert that has TradeStation tell you when your pattern or indicator has generated a signal. I then monitor this pattern in real time to see if I still think, at the exact moment it occurs, that it is a valid signal. It is one thing to view a signal with the dispassionate eye of historical data and totally another to see it live and try to trade it.

On daily charts, I recommend scrolling through the chart and looking at the signals on the day that they occur and try a little "paper trading." I always find this process fascinating, and if you know yourself well enough to be honest about how you would trade, this can be invaluable. The strategy is to try to get as close to market conditions as possible without actually placing money on the line.

Design the Strategy

Now we have created our indicator or ShowMe study (pattern), have used an alert to see how it works real time, and simulated some market positions to see how we might trade it. It is now time to make this indicator or ShowMe study into a real strategy.

DEFINING YOUR SET-UP AND ENTRY

The first step is to make sure that the indicator or ShowMe study (pattern) and how we use it to enter the market meets all of the criteria of set-up and entry. We know that the set-up should indicate the direction that we want to trade, and should start to define the type of market activity we are trying to trade. Remember that there are different ways to treat set-ups if we are going to trade a trend-following strategy versus a volatility expansion strategy.

Once we have the set-up, we then create the entry using our two entry rules. This is to make sure that the entry confirms the direction of the set-up and also guarantees that we will get in on every move for which the set-up and entry are designed.

USING EXITS

Most trading strategies start with a signal to take a position in the market, both on the long side and the short side. We use set-up and entry to design this signal. A common procedure for trend-following strategies is to test the strategy when it is in the market all the time, reversing with each signal. Then, if you find an indicator or signal that tests well, you can improve on it by using various exit strategies.

There are various reasons to use an exit rather than just reverse a position. The most common is to simply take a profit at a predetermined price level or indicator level. This would be a profit objective and is commonly called scalping the market with a price target.

A second reason would be if you determined that there are certain conditions under which you want the strategy to be flat, rather than short or long. For instance, if the price closes below a short moving average, but is still above the long moving average, you may not want the strategy to go short, but you may not want it to go long either. So you would design the strategy to be out, neither long nor short, waiting for the next signal.

The third reason to use exits is when you are writing a strategy that is based on several indicators (perhaps two set-ups and an entry) that must be in agreement before a position is taken. When one or two of the indicators turns against the position, the strategy exits the market, waiting for the three indicators to agree again.

One of the most common errors in strategy design occurs when the individual uses either the set-up or the entry as an exit. As I have shown you in Chapter 4, Profile of a Winning Strategy, trading just set-ups or just entries is not effective. The use of an exit is less important if you focus on the concept of set-up and entry because the set-up and entry technique is very effective by itself. In some instances, it is very important to know what not to do rather than what to do. In this case, it is much more instructive to know that using either set-ups or entries as exits is not the recommended way to go.

Exits must be based on market activity, and should be used only if there are specific logical market reasons for you to be out of the market. Exits should not be designed to save you money or protect your capital. They should be used to increase your profits. And although this may sound like double talk, it isn't. Protecting your capital is the role of money management stops.

Exits are more appropriate for volatility expansion strategies and support and resistance strategies than for trend-following strategies. By their nature, both of these strategy types have short-term trades that take advantage of short-term market conditions. For instance, in a volatility expansion strategy, we wait for the next increase in volatility and then enter the market. We would then devise an exit that would get us out of the market when the volatility increase had run its course. Or, when we had achieved our profit objective.

With trend-following strategies, we must be sure that if the exit rule gets us out of the market, the entry makes sure that we are back in for the big move for which the strategy is designed. Sometimes using an exit signal prevents a timely entry back into the market, and the strategy misses the next move. This can be checked in the way I described earlier, by using ShowMe studies and scrolling through the chart.

USING A STOP LOSS

Stops are used for one purpose only, and that is to protect your capital. They are placed either to limit losses or to protect profits. Stops are usually based on some dollar figure rather than a market indicator or price pattern.

Stops share one characteristic with exits in that they are an interim step between entries. They force the strategy out of the market, which then requires a re-entry. You should give this re-entry the same thought and attention that you would give a re-entry for exits.

The first stop you should consider is a **money management stop**. This is simply the maximum amount of money that you are willing to risk on any one trade. It is placed after the initial entry and is usually not moved. The decision to place this stop is dependent on the strategy. If your set-up and entry techniques are sound, the strategy may not need a money management stop. The next entry would reverse positions before any money management stop would be hit.

The only rule for money management stops is that they must not interfere with market action. If the money management stop is hit before the exit or the reversal, then it is too close to the entry price and is interfering with the strategy's ability to interact with market action. As a general rule, I recommend that money management stops not be hit more than 10% of the time. If you scroll through the trade by trade record of your strategy and notice that the money management stop is being hit regularly, you should consider changing the stop.

Another thing to remember is that the volatility of markets changes over time, and what has been a good money management stop for the last few years may not be appropriate now. For instance, the stock market has risen substantially in the 1980s and 1990s. If you designed a strategy in 1988 for the S&P, when it was trading about 300, the money management stop is probably too small for the market that is trading at 800. So keep in mind that if you use money management stops, you should keep testing for the appropriate level. You will know that your stop is not appropriate when you get stopped out of a move too early because your stop interferes with market action.

Another stop you should consider is the **profit protection stop**. This strategy consists of what is called a trailing stop, which protects profits once the trade has moved into profitable territory. A trailing stop keeps moving with the profits. For example, in a long trade, you might decide that you only want to risk $1,000. Each night, after noting the close, if the price has moved up in your direction, you would also move the stop up so that it would be $1,000 away from the close. This type of stop may also be redundant if you have developed a viable set-up and entry.

Money management and trailing stops can also be combined to limit the total risk of any one trade. For instance, the initial money management stop might be $2,000 away from the entry price. This limits your total exposure in the worst case scenario to $2,000. Once the strategy moves into profitability, a trailing stop is placed $2,000 away from each day's closing price. When the profit reaches $2,000, your trailing stop ($2,000 below the close) would be at breakeven. If the price continues up, each successive new high would result in the trailing stop being moved up to protect even more profit.

Stops can take many forms, and in the final analysis, which to use is an individual's prerogative. The use of a stop depends on your trading style and risk aversion. As with exits, stops are less important if you have spent the time and energy to develop a sound set-up and entry strategy. The use of stops will not make a poor set-up and entry strategy sound, but a viable set-up and entry may make conservative stops unnecessary. Remember the following statements.

STOPS ARE USED TO PROTECT YOUR CAPITAL

EXITS ARE USED TO RESPOND TO SPECIFIC MARKET CONDITIONS

Test and Optimize the Strategy

Once you have conceptualized and written all of the components of the strategy, you will then want to test it. I always recommend that you test each part as you add it to the strategy, to see if there is improvement and, if so, how much.

I would first test the set-up and see how profitable it is on its own. Then add the entry and see what the improvement is. This is the backbone of the strategy. For trend-following strategies, I require that the set-up and entry be profitable on its own without adding any exits or stops. For volatility expansion strategies, I don't require initial profitability, but I am more comfortable if it is profitable right away. I have always thought that if a set-up and entry for a volatility expansion strategy also makes money as a trend entry, it is more robust and I would have more confidence in it.

When you have proven to yourself that you have a viable set-up and entry, you can then move on to test exits, and then money management stops. If your strategy isn't profitable at this point, you have either picked the wrong indicators or still have some design flaws that need to be fixed.

Many new traders think that they can fix a strategy through optimization. They rationalize that even if a strategy has a solid set-up and entry, good exits and stops, but loses money, they can fix it by optimizing the lengths of the indicators. I will talk about optimization at length in Chapter 7, Optimization, The Double-Edged Sword, but suffice it to say that optimization should never be used to make an unprofitable strategy viable.

The major point that you should understand for optimization is that optimization should make a profitable strategy more profitable. It is only a method for tweaking the profits. Optimization should never be used to make a bad strategy good.

Optimization is used appropriately if it makes a viable and profitable strategy more robust.

Implement and Trade the Strategy

At this point, we have created a viable strategy and improved it through optimization. We are now ready to trade it. TradeStation is ready to give you your orders automatically.

I heartily recommend that you use this aspect of TradeStation. It is the ultimate aid to self-discipline. There are many possible distractions during the trading day, phone calls, unusual market action, and important breaking news, just to name a few. We know that to reproduce the strategy in real time we have to trade it exactly as it has been written and tested in the past. The distractions during the day may make it difficult to implement the strategy exactly as it was designed.

One of the major traps is to try and second-guess the strategy; to personally filter the trades based on your own ideas. I call it playing "beat the strategy." I really don't recommend playing beat the strategy.

If we are truly going to run our trading like a business, we have to implement the strategy as designed. If the strategy doesn't make money, we need to change the strategy. To corrupt the strategy through filtering trades with personal bias is a major problem that new traders face.

Using TradeStation to put on the trades for you is the best tool for discipline that I can recommend, short of having someone else do it for you. If you take every trade as the Strategy Tracking Control Center (STCC) dictates, you will be well on your way to successful trading.

The STCC does two things for you. First, it is unbiased and won't misinterpret signals that could lead to mistakes. Before TradeStation, on occasion, I would be distracted and put in an order that I shouldn't have or put it in wrong. It is human nature not to pay attention all the time.

The second benefit of the STCC is that you can use it to force you to take all of the trades when they should be taken. If you commit to putting in every order the STCC gives you, your trading discipline will be sound. I can't tell you how many traders have trouble implementing trades, even with the STCC. With TradeStation actually beeping at them, providing the correct orders, they are still unable to implement the strategy. I believe that the reason this occurs is because the strategy has not truly been designed to the personality of the trader.

If you have trouble putting on your trades, even while using TradeStation's STCC, you should make sure that the characteristics of the strategy fit your own trading style, that you can accept the risk and drawdown and comfortably take all of the losing trades. If you can't take the losses and drawdown, you must either fix the strategy or find a new one that is more in harmony with your personality.

Modify the Strategy based on Trading Experience

It is not reasonable to expect that you could have thought of everything about the strategy before it is actually traded. I usually end up tweaking a strategy once I start to trade it. There is nothing like actually putting on the trades to give you that direct insight into the viability of a strategy. The point here is to realize that the chances are good that you will want to change the strategy once you gain some experience trading it.

The only caveat I will give you is not to modify the strategy during trading hours. This is best left to the calm peaceful moments when the markets are closed. As you are trading, write down your potential modifications, note any peculiarities of the strategy, and notice the personal difficulties you are having actually implementing the trades. Then, after market hours, you can take a detached view as to how the strategy traded and how you would have liked it to trade.

Understand that there is no Holy Grail

There is no Holy Grail in trading. There is no single indicator that will produce 100% profitable trades. There is no technique that will make trading a breeze and making money an easy task. This is reality.

Choosing an indicator, therefore, becomes a decision of personal choice, rather than right or wrong, or of good or bad. I have always believed that you could give a successful trader a poor indicator and that they will soon figure out how to trade it profitably even with the odds stacked against them. But give a good indicator to an inexperienced trader and he or she will most likely lose money, even with the odds in their favor.

So how do you go about choosing your indicator? How do you sort through all of the books, strategies for sale, seminars, and the Internet? How do you know when a trading guru promises you instant wealth whether his or her trading material is sound? The answer is not as hard to find as it may seem.

There are literally thousands of indicators to choose from. Just look at those available in the TradeStation Indicator Library and you'll be overwhelmed with the choices. When you couple all of the standard indicators with the ability of using TradeStation to make your own, you are literally approaching infinity.

The place to begin to filter through all of these choices is to first make a decision as to the type of strategy that you are going to trade. Once you make this decision, it will probably eliminate half of the alternatives. The indicator you choose should be designed for the type of strategy you are going to trade. This decision will also force you to decide what type of trader you will be. Remember it is very important that you make some decisions on the big picture, the overall strategy, before you get to the details.

The indicator should not be totally derived from price. Traders, particularly novice traders, that lose money consistently are inevitably using price-derived indicators. The more removed you can be from direct price correlation, the more reliable and profitable your indicator is going to be. While I have not seen any studies proving this hypothesis, it has been a rule that I have lived by for many years.

I try to use or design indicators that are either not directly related to price, or are several derivatives away from price. If you can use volume, range, advances and declines, new highs or new lows or open interest to modify the price-based indicator, it should become more effective.

Another way to deal with this issue is to combine non-price indicators with those that are price derived. This way you can start to filter your price-derived indicators with other types of data.

If you decide to use a standard indicator, its performance will improve if you use it in a different manner than it was originally intended. For instance, one of my favorite techniques is to use a support and resistance indicator for trend trading. Remember that if 95% of all traders lose money, chances are they are also using standard indicators in conventional ways. If you want to trade profitably, you must trade differently than the other 95%. That means using standard indicators in unique ways.

The indicator and the way it is calculated should make sense. While this may sound obvious, it always amazes me that so many people trade indicators that they don't understand.

First you should know how it is calculated. Study the formula and see if it is logical. Try to understand why this indicator is supposed to work and what market action it is supposed to represent.

The logical part is the most important. If the theory and computations do not make sense to you, chances are it doesn't make sense at all. There are a lot of trading methods and indicators floating around that don't make a lot of sense, and they probably won't make money either. The indicator should be simple. As a general rule I believe that the complexity of the indicator is inversely proportional to its usefulness and profitability.

The indicator you choose should be profitable or close to breakeven in its pure state, that is without optimization or money management improvements. Starting with an indicator that loses money and trying to fix it is a much more difficult task than starting with a poor but profitable indicator. If you start with a profitable base indicator, the chances of developing something that you would actually want to trade are greatly increased.

Become an expert on one indicator. Most people make random attempts at finding an indicator and a market to trade it. When the most recent choice begins to fail, they start another random walk down the indicator/market road. You should avoid this trap. Pick your indicator because you understand what type of market action it is trying to capture, and you believe that you can trade this type of market action. Become an expert on this indicator. Learn its personality and its little quirks. And again, use set-up and entry. This is the basic format for all of our strategy development.

Summary

The Art of Strategy Design consists of 10 steps. If you follow these steps, your chances if developing a sound strategy will increase dramatically.

The 10 Steps of Strategy Design
1. Pick the Market Type (trending, directionless, volatile)
2. Choose your Trading Time Frame
3. Design and Chart your Indicator(s)
4. Write the Criteria as a ShowMe Study
5. Modify Ideas with ShowMe Study
6. Write Alerts to Simulate Trading
7. Design the Strategy
8. Test and Optimize the Strategy
9. Implement the and Trade the Strategy
10. Modify based on Trading Experience

Now let's go on and actually create a strategy using these steps.

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