

Thoughts on Decision Making when choosing a system that fits your objectives (from a discussion thread at the IITM discussion board)

by Ken Long



How do I choose a system that fits me?

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Context: a discussion board poster had completed a study of a number of different trading systems, analyzing their performance characteristics over time and was wondering how to choose from among them)

Andy: it sounds like you have done the nuts and bolts work on your system choices. From a decision theory perspective, you have developed your courses of action and have ordered them against your decision criteria. A couple normal ways to proceed are:

Method 1: simply weight the criteria (comparing how important each is) and then multiply the score of each system by the criteria weight, get a total score per system and then pick the highest score (this is the ultra rationalist approach)

Method 2: Pick the most important criteria from your list and take the system that best meets the prime criteria.

There are other methods of choosing related to the nature of the system or decision space you are in. For example, here are some goals or purposes that relate to a decision which could lead you to pick one system over another

3. Minimize regret: You use this method if what's most important is limiting pain. You look at the worst case of the performance of each system and choose the one that had the least pain if things move against you. In trading you might choose this method if you were looking for conservative income type returns and you were concerned about missing opportunities, rather you wanted to sleep at night secure in the knowledge that you have protected against the downside and can live with whatever returns the system will generate.

4. Maximize opportunity: This is almost the mirror image, wherein you choose the system that performed the best in the best case scenario. This is almost like a venture capitalist approach where you have assigned some percentage of your total portfolio to aggressive, speculative

opportunities and are looking to hit a home run. Typically this would have a high percentage of losing trades, offset by extraordinary returns from a few positions that give you a positive expectancy. While this would have volatility and drawdowns it would satisfy the desire to capture the rare large dramatic moves.

5. Robustness: This is a middle of the road method where you look at a variety of scenarios for system performance, assign a probability to each scenario, calculate the expected return for the systems in question against each scenario, then sum the expected scenario returns per system to get an overall return, and choose the best overall performer. You might use this method if you were in an environment where trends are changing rapidly and you can't rely on the historical conditions you tested to continue on into the future. You might want something that gives decent returns in a variety of scenarios and be willing to accept a system that may not be the best in any single scenario but is decent in many. Robustness then, describes a system that's acceptable over a variety of scenarios without necessarily being the best in any single one.

Finally, here are some thoughts about mixing systems. Depending on the cost in time and administration in mixing systems you can allocate a portfolio percentage to different decision criteria and use that to guide how much you might allocate to a variety of systems.

All of these ideas trace back to the objectives of your investment strategy. It helps to have defined the things that are important to you prior to getting deep into system design so that when you emerge from research you have a set of decision criteria and methods to make your evaluations without being influenced by the performance results of your systems. Helps you from falling in love with cool ideas that you emotionally "want" to win even though they may not satisfy your original objectives. Helps keep both means and ends in their proper perspective.

That's why Van's teachings on the importance of objectives is so important. Time spent on objectives up front guides your choice of markets and systems and helps you decide on what systems will work for your needs once you have completed system definition.

Hope you find a nugget in there you can use!

cheers,

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