



# MODULE 1 UNIT 1

## Video 1 Transcript

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NIR VULKAN: Welcome, everyone, to your first “proper” module, as we like to call it. This is now Module 1. And what we’re going to do in this module, we’re going to review finance or finance theory. So, we’re going to begin with this sort of standard finance theory or what is known as the efficient market hypothesis and how, you know, how markets work, how trading works.

Many of you have done, I guess, a standard finance course in university. And the interesting thing about that, to say, is that whether you’ve done it 5 years ago or 50 years, it actually hasn’t changed much. We have a beautiful, beautiful theory of how financial markets should work and how information is disseminated through prices instantaneously. And everything is perfect. What has happened, as I’m sure most of you would know, is in the last 20 years or so, especially, something called behavioural finance became very, very important in finance. And this is the idea of how to think and how to model irrationality.

And to some extent, that’s the core, that’s the base of this programme, because, you know, if we’re trying to build algorithms that are going to successfully trade, they have to exploit something, some inefficiencies in the markets. And these inefficiencies tend to come from behavioural patterns.

So, the key finding in behavioural finance, which starts with that Kahneman and Tversky theory, in the late seventies, I think, is that not just that people are irrational but that people are irrational in the same way. And so, there’s predictability in these patterns. And it’s worth mentioning that Daniel Kahneman is the only psychologist who ever won the Nobel prize for economics, because his finding had such an impact on how we think about trading and finance. And beyond finance actually.

And actually, about half the Nobel prizes in finance in my professional lifetime have gone in recent years to behavioural finance. So, it’s a really active area of research. And hopefully we’ll give you a taste of that in this module.

You know, another way of saying what algorithmic trading is, it’s the maths of mass irrationality. That’s the way I like to think about it. So, there is some kind of irrationality that persists in large group of people or large group of traders, or some kind of inefficiency – maybe irrationality sounds strong – but some kind of inefficiency, something that’s not completely consistent with the efficient market hypothesis, and what we want to do is to exploit that. And really, the maths is the way we model this and build traps that capture these behavioural patterns. So, to some extent you can say this is the most important module of these programmes.

And it’s, I hope, a bit fun, because you’ll see all kinds of nice examples. In particular, the Hathaway effect, which one of my favourites. Which is when, every time, apparently, the actress Anne Hathaway, her name is or she’s in the news, the share price of [Berkshire Hathaway] goes up a bit. Of course, they have nothing to do with each other except the word “Hathaway”. So, this is a clear irrationality. But, you know, it does happen. And, sort of, mass social media tend to make this effect even stronger.

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Now, can you build a system that exploits that? Possibly. Basically, take a small position and then, kind of, take advantage of that little bump. I don't know, but that's the kind of reasoning, the kind of thinking that we will have here in this programme.

So, enjoy your first module.