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Predictable Decision-making Biases

By Daniel R Wessels

Daniel Kahneman, famous psychology researcher and winner of the 2002 Nobel Prize in Economics¹, tells the story how many years ago, after completing his undergraduate studies in psychology, he served in the Israeli Army's Psychology Unit. One of the unit's tasks was to evaluate possible candidates for officer training. Teams of potential candidates underwent some mental and physical challenges completing an obstacle course. Kahneman and his colleagues monitored these exercises closely to evaluate each candidate's role and contribution to the team's effort. Afterwards they had to review and submit recommendations which candidates were likely to become good officers and those who would not. Kahneman and his colleagues thought their recommendations would be fairly accurate as they saw exactly the behaviour of each candidate under these stressful situations.

The disheartening aspect of their work, however, was the regular feedback they got back from the army trainers of these officer candidates. It became clear that their initial analyses were often inaccurate and were only slightly better than blind guesses. Why? Kahneman realised over time that they based their decisions on too little evidence – basically their recommendations were based on artificial situations over a short period of time, and not during real training and battlefield situations. Moreover, they ignored the role of randomness or accidental luck that bedevilled their recommendations and often caused their expectations of a “star” performer to be highly exaggerated when the candidate was confronted with real situations.

“We knew as a general fact that our predictions were little better than random guesses, but we continued to feel and act as if each particular prediction was valid. I was reminded of visual illusions, which remain compelling even when you know that what you see is false. I was so struck by the analogy that I coined a term for our experience: the illusion of validity. I had discovered my first cognitive fallacy.”

Kahneman's take on this is that we are prone to think the world is more regular and predictable than it really is, because our memories continuously maintains a story about what is going on and the rules of memory tend to make that story as coherent as possible while suppressing alternatives. Basically, we have an exaggerated expectation of consistency.

The confidence we experience to make a judgement is not necessarily a reasoned evaluation of probabilities, but a feeling nurtured by the coherence of the story and how easily it comes to mind, even when evidence is sparse and unreliable. People who come up with good stories

¹ Kahneman and his co-researcher of many years, Amos Tversky did excellent pioneering work in the emerging field of Behavioral Economics. They became famous for their *Prospect Theory* which turned the core assumption of rationality in standard economic theory on its head. *Prospect Theory* postulates that a non-linear, and not a linear relationship exists among individuals in the manner how they perceive gains and losses. Most people are twice as sensitive to possible losses as the prospect of gains. Tversky passed away in 1996 and since the Nobel Prize is not awarded posthumously it was only awarded to Kahneman in 2002.

tend to make confident predictions even when they know little or nothing. Overconfidence arises because people are often blind to their own blindness.

Kahneman believes that true intuitive expertise is learned from prolonged experience with good feedback on mistakes. For example, most of us can accurately gauge our spouse's mood from a short conversation over the telephone, a master chess player can immediately identify weaknesses in an opponent's strategy, and some physicians can immediately make correct diagnoses of patients, etcetera. But two conditions are needed before one can trust intuitive expertise: The environment in which the judgement is made should be relatively stable or regular to enable predictions from the available evidence. Secondly, professionals should have adequate opportunity to learn about their profession/discipline that in turn depends on the quality and speed how they discover their mistakes.

The real challenge, however, is to distinguish between true experts and overconfident professionals in less stable environments such as financial markets. Overconfident professionals sincerely believe they have expertise, act as experts and even look like experts. It is very unlikely that most of us will even consider that such experts may be in the grip of illusion, especially if they have a good, compelling story.

But be aware: Kahneman points out that the confidence we will experience in our future judgements will not be diminished by what we read so far, even if we believe every word. This is simply not how we are wired, alas we are human beings!

Another brilliant Israeli-born researcher, Dan Ariely, a world-renowned behavioural economist (he holds doctorates in psychology and economics) and author of *Predictably Irrational*, studied for many years how people make irrational decisions and how different circumstances and settings influence their decision-making. He came to the conclusion that by far the majority of people are making irrational decisions, unlike what standard economic theory would dictate, and what is more this level of irrationality is quite predictable.

Ariely uses a number of examples in his book to illustrate how people typically behave and make decisions:

1. *Relativity*

Before we make decisions we seek to draw comparisons between options, but often we do not realise that the way the options are presented to us will have a profound influence on our decision-making. For example, consider the following choices of more or less equal value on offer:

Weekend in Rome with free breakfast included

Weekend in Paris with free breakfast included

It is really a toss up between the two choices – probably a 50/50 split among an audience. But let us introduce a third option – namely a weekend in Rome but no breakfast is included in the package. Clearly, *Rome with breakfast* is superior to *Rome with no breakfast*. But now something interesting is happening. Where people could not really make up their minds between *Rome with breakfast* and *Paris with breakfast*, most people would now prefer the *Rome with breakfast* option. *Paris with breakfast* seems now the inferior choice, simply because *Rome with breakfast* is clearly better than *Rome with no breakfast*; hence we tend to carry forward the positive view about this option when comparing it with other options, even if they are not directly comparable.

Smart marketers have been using “decoy options” or “secret agents” (formally known as the asymmetric dominance effect) for years to promote certain products or services among customers. For example, if you want to buy a TV, chances are that the salesperson will offer you three options: a relatively cheap basic TV, a more expensive TV but clearly with much better and additional features and an expensive top-of-the-range set. Most people would opt for the second or middle option, which incidentally might also be the most profitable sale for the business. Likewise, a restaurant may offer a very expensive meal and then an alternative, cheaper meal but with higher profit margins than the first. Most people would obviously settle for the cheaper meal. Another interesting example of using a “decoy” option was where a manufacturer of bread machines initially struggled to sell their product. Then they introduced a deluxe version, which was 50% more expensive than the standard version and suddenly sales of the ordinary bread machines took off because it appeared to be priced at a bargain.

Note, while the concept of relativity help people to make decisions it will not always lead to sound decisions. Moreover, relativity has a serious downside – people tend to compare their lives to those of others, often leading to jealousy and envy.

2. *Supply and Demand*

Consumers purchase items based on value, quality or their availability. Anchoring – customers relate the value of an item based on their previous experiences – is a key concept in the willingness of consumers to pay for an item. When consumers buy a product at a certain price, they become “anchored” to that price, i.e. they associate the initial price with the same product over a period of time. An anchor price of a specific item will affect the way they

perceive the value of all related items in the future. Other prices will seem low or high in relation to the original anchor.

Ariely's research experiments seriously challenge the classic theories of supply and demand. Thereby market price is a balance found between the willingness of consumers to buy goods and manufacturers to sell goods, but both forces are independent of each other. However, demand can be easily manipulated by suppliers. For example, a manufacturer's suggested retail price affects consumers' willingness to pay – we often find items priced below the suggested retail price and therefore entice us to buy such items at “bargain” prices. Thus, market prices have an effect on consumers' willingness to buy items, and not the other way around.

Moreover, demand patterns are not based solely on consumer preferences, but on price memory as well. For example, imagine the following utopian scenario where the price of milk doubles and the price of wine halves. Surely, changes in demand patterns of the two products will occur at least over the short term – less milk, more wine consumption (and perhaps more happier people!). If people did not have any price memory, no changes in the relative demand of the two products would have taken place.

3. *For Free*

“Free” and “zero” have very powerful effects on decision-making and behaviour. Ariely illustrates through multiple experiments that humans make decisions without rationalisation of their choices. When faced with multiple choices, the free option was commonly chosen. With the opportunity to receive something for free, the actual value of the product or service is no longer objectively considered.

“Most transactions have an upside and a downside, but when something is FREE! we forget the downside. FREE! gives us such an emotional charge that we perceive what is being offered as immensely more valuable than it really is.”

Humans typically act in a loss-averse manner, yet when an item or service is free, there is no visible possibility of loss. Businesses can very successfully change consumers' behaviour by offering “free services”. For example, an online ordering company like Amazon experienced

increase in sales with the introduction of “free shipping”. Likewise, insurance companies are selling insurance products with agents providing “free” financial analysis, etcetera.

4. *Social and market norms*

We live in a world where two types of norms apply, namely social norms—which include friendly requests (free favours) with instant payback not being required—and market norms—which account for wages, prices, rents, cost benefits, and repayment being essential. Most people are happy to do things occasionally when they are not paid for them, but problems arise when combining the two norms. For example, research experiments showed that professionals were willing to render their services free of charge for good causes, but not when they were offered a nominal (below market) fee to render the same services. Thus, the price mechanism often triggers market norms in human behaviour.

5. *No is not always no*

We may have very clear ideas or even principles what we shall do or not do, but when in a heightened state of emotion we may act very differently. It is well-documented that basic emotional states such as anger, frustration, fear and hunger will trigger irrational behaviour. The behaviour of investors in financial markets is a comprehensible display of irrational decision-making in action. But of course these are not the only emotional triggers. Ariely and George Loewenstein, professor of economics and psychology at Carnegie Mellon University tested the influence of sexual arousal on decision-making among college men. Without divulging too much detail let me say the results were not surprising, although it may be embarrassing for the respondents in a neutral state of mind!

6. *Procrastination*

Most of us give preference to immediate gratification as opposed to do things that will fulfil our needs in the long run. With proper motivators such as deadlines and penalties, people are more willing to meet their long-term goals. Deadlines set by authorities are much more effective than self-imposed deadlines. Retirement plan sponsors found that when including the desired savings premium as a default option most employees will stick to the default, but

when giving the employees too much choice or leeway, many will opt for insufficient contribution rates.

7. *The endowment effect*

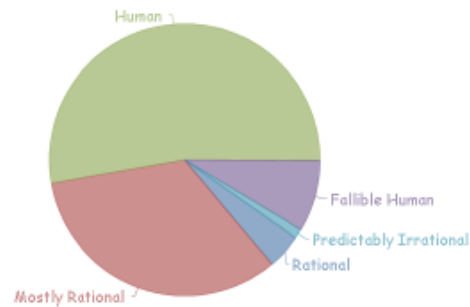
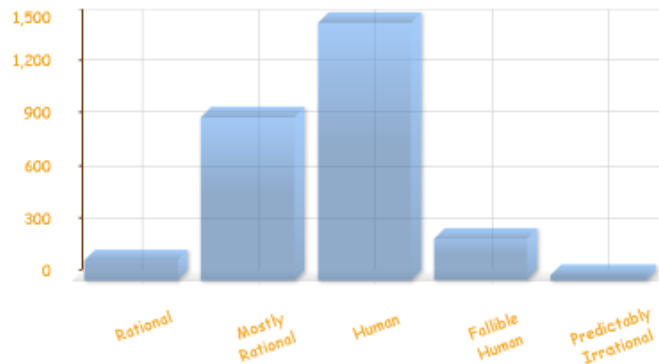
We tend to overvalue what we have, and therefore we make irrational decisions about ownership. The idea of ownership makes us perceive the value of an object to be much higher than if we do not own the object, otherwise known as the *endowment effect*. Ariely states that the ownership or possession of an object makes our behaviour predictably irrational because we focus on what we may lose rather than on what we may gain, it is difficult for us to dispose of them, and we assume that people will see the transaction from the same perspective as we do. Moreover, we will behave as owners of objects even before we actually own them. Trial periods and money-back guarantees generally work very well in the business environment because we do not like to downgrade once we are in possession of an item.

A final thought: The work of renowned researchers like Daniel Kahneman and Dan Ariely contributed immensely to the knowledge pool of understanding human behaviour and undoubtedly exposed the fundamental shortcomings of standard economic theories. We know that human beings in general are not wired to act rationally at all times – well, we are human beings and not machines, but collectively we are not doing such a poor job after all.

James Surowiecki, author of *The Wisdom of Crowds* illustrates through many examples in his book how the collective knowledge under certain conditions is often much superior to individual and even expert knowledge. Or, irrationality among individuals does not imply an irrational collective. That is why democracy generally works better than any other political system or most of the times why financial markets are very efficient in allocating capital to the most productive enterprises. For example, price levels in financial markets often seem “stupid”, especially if it is far removed from our own individual assessments, yet only a small minority of market participants – including experts – can actually do better than the collective wisdom of the market. This topic, however, merits a separate discussion for another article.

P.S. For a bit of fun you can complete a *Predictably Irrational IQ test* on Dan Ariely's website. I show the aggregate results of the tests hereunder. The good news thus far is that the majority of individuals tested to be human after all! Also, check out some fascinating visual illustrations how our eyes can easily deceive us to think what we see is the truth, but of course it is not.

Here is the direct link: <http://danariely.com/apps-tools/>



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