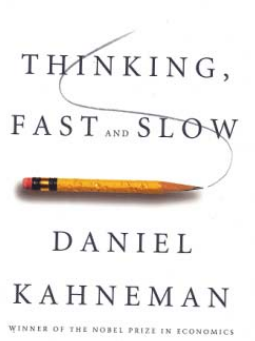

“Thinking, Fast and Slow” by Daniel Kahneman (2011)

A brief review by Harold Ainsworth.

Kahneman is a very respected academic in the field and a Nobel Prize winner (Economics), and the book is very readable even at 500 pages.

Thinking, fast and slow

- System 1 and System 2
  - System 1 operates automatically and quickly, little effort, no sense of voluntary control. Used in everyday decisions.
  - System 2 allocates attention to mental activity, often associated with subjective experience - e.g. choice, concentration. Used an important and more complicated decisions.
  - System 1 can lead us astray as not reliable– need to modify with System 2

Biases we are all subject too

- Confirmation – look for examples which confirm our thinking
- Framing – example later
- Representativeness – example later (base rates)
- Narrative fallacy (drawn from Taleb) – see a following slide
- Mental accounting - sunk cost – example later
- Risk aversion – we are more sensitive to potential losses and try and avoid them - than we are to potential of making gains
- Anchoring – tendency to utilise a number we are given and estimate around it rather than start from first principles
- Regression to the mean – example later

Other fallacies

- Planning fallacy – underestimating occurs – use of reference class forecasting (p249) – Flyvbjerg has written articles on this. Reference class forecasting carefully uses results from other projects to confirm estimates
- "halo effect" – exaggerated impact of leadership style on success (p206) - no allowance is made for luck which often plays a large part in the success
- Inside - outside view – we need to have someone outside of problem to view it as they may see a different perspective

The Narrative fallacy (or fraud)

- We weave a story around a sequence of past events
- Make a story out of them
- Helps us to make sense of them
- Creates an impression of understanding
- Often seen when people say after the event I saw that coming (like GFC) but they didn't

Taleb, N (2007) The Black Swan, Penguin Books, London

Foxes and Hedgehogs – Forecasting -1

- Philip Tetlock who was written on “Superforecasting” draws on the work of Isaiah Berlin, and the concept of foxes and hedgehogs
- The book picks this idea up and the next slide shows the difference
- Basically foxes a more complex thinkers and understand that reality emerges from the interaction of many different agents and forces including luck

Foxes and Hedgehogs - forecasting - 2

Quoted in Silver, Nate 2012, "The signal and the noise – why some predictions fail – but some don't", The Penguin Press, NY – quoting Prof Philip Tetlock on hedgehogs and foxes

How Foxes think - *Foxes are better forecasters*	How Hedgehogs think - *Hedgehogs are weaker forecasters*
Multidisciplinary: Incorporate ideas from different disciplines and regardless of their origin on the political spectrum	Specialized: Often have spent the bulk of their careers on one or two great problems. May view the opinions of "outsiders" sceptically
Adaptable: Find a new approach – or pursue multiple approaches at the same time – if they aren't sure the original one is working	Stalwart: stick to the same "all-in" approach – new data is used to refine the original model
Self-critical: Sometimes willing (if really happy) to acknowledge mistakes in their predictions and accept the blame for them	Stubborn: Mistakes are blamed on bad luck or on idiosyncratic circumstances – a good model had a bad day
Tolerant of complexity: See the universe as complicated, perhaps to the point of many fundamental problems being irresolvable or inherently unpredictable	Order-seeking: Expect that the world will be found to abide by relatively simple governing relationships once the signal is identified through the noise
Cautious: Express their predictions in probabilistic terms and qualify their opinions	Confident: Rarely hedge their predictions and are reluctant to change them
Empirical: Rely more on observation then theory	Ideological: expect that solutions to many day-to-day problems are manifestations of some grand theory or struggle

Examples

- The following slides use examples from the book to illustrate our bias

Base rates (1)

Tom W is of high intelligence, although lacking in true creativity. He has a need for order and clarity, and for neat and tidy systems in which every detail finds its appropriate place. His writing is rather dull and mechanical, occasionally enlivened by somewhat corny puns and flashes of imagination of the sci-fi type. He has a strong drive for competence. He seems to have little feel and little sympathy for other people, and does not enjoy interacting with others. Self-centered, he nonetheless has a deep moral sense.

Rank the 9 fields of specialisation listed by
how similar the description of Tom W is to the typical
graduate student in the following fields: (see next slide)

Base rates (2) – common results

1. Computer science
2. Engineering
3. Business administration
4. Physical and life sciences
5. Library science
6. Law
7. Medicine
8. Humanities and education
9. Social science and social work

This is the common result – people use "representativeness" to predict rather than base rates (how many people in each category)

Pre-mortem

- What is it?
  - Imagine project has failed
  - Identify reason for this
  - Each participant lists reasons and then shares them
  - Actions taken to address them
- Why ? – increases ability to identify reasons by 30%
- Why does it work? (Kahneman explains in his book)
  - Overcomes “groupthink”
  - Reduces overconfidence
  - Legitimises doubts

Klein Gary, 2007, “Performing a Project premortem”, Harvard Business Review, Sept

Organ donation sign up rates in parts of Europe

- Austria = >90%
- German = 12%
- Sweden = 86%
- Denmark = 12%

Why the significant difference across these countries which are similar in many ways?

- In Austria and Sweden you have to opt out
- In Germany and Denmark you have to opt in

So it depends on how the donation question is framed (framing bias)

Regression to the mean – example 1

All stores sell the same items

Store	2011 $	2012 possible sales?
1	11 mill	12.1
2	23 mill	25.3
3	18 mill	19.8
4	29 mill	31.9
Total	81 mill	89.1

Economist believe sales will increase by 10% next year
What do you expect each store to sell?

Regression to the mean – example 2

All stores sell the same items

More likely example using regression to the mean

Store	2011 $	2012 possible sales ?	% used
1	11 mill	12.38	12.5
2	23 mill	24.95	8.5
3	18 mill	20.16	12
4	29 mill	31.18	7.5
Total	81 mill	88.67	

Economist believe sales will increase by 10% next year
But that does not mean each store will go up by 10%
Some may have had a good year and revert to their mean (average)
Others may have had an unusually bad year and will revert to their mean
Book - Regression to the mean (p175) - above average results will not necessarily continue – they will revert to the mean

Google

- A year after founding the company Google, the founders were willing to sell their company for less than 1 million dollars
- The potential buyer said the price was too high
- This shows how luck can affect outcomes

What did not happen is just as important as what did happen!

Sunk Costs

- "This fallacy keeps us too long in poor jobs, unhappy marriages, unpromising research projects"
- Example

"*Two sports fans plan to travel 40 miles to see a basketball game. One of them paid for his / her ticket; the other was on his way to purchase a ticket when he / she got one free from a friend. A blizzard is announced for the night of the game. Which of the 2 ticketholders is more likely to brave the blizzard to see the game?*"

- Mental accounting provides the answer. (the person who paid for his / her ticket) - or inability to let go of sunk cost

Why important?

- Decisions around strategy, and then subsequent investments of the portfolio of programs and projects, are subject to bias
- The problem is that we don't necessarily believe or understand these biases, and consider that our decisions are perfectly rational and objective
- Some organisations attempt to overcome this by ensuring that there is an alternative and different viewpoint to the one proposed, in order to foster debate, even to the extent of appointing an “alternative champion”
- *Examples - Failed investments by organisations. Mergers and Acquisitions have a very poor record of ever achieving (on average only around 30 - 40% do) their planned outcomes. These decisions are taken at the very highest level in the organisation, in conjunction with highly paid external financial advisers, and after extensive analysis and discussion.*