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Business Forecasting

Biases and Forecasting



Problems in Judgmental Forecasting



Although judgmental methods have relative merit in certain circumstances there are also problems

These problems can lead to **biases** and hence **systematic inaccuracies in forecasting**

Some biases are due to **individual judgment and psychology**
(eg. Sales Force forecasts)

Others are related to **group biases** with forecasts derived from group input/interaction (Jury of Executive Opinion)

In addition **political and organisational issues** may lead to systematic biases



Judgmental Biases- Individual

Research indicates that individual's decision making processes and judgments (including forecasts) can be influenced by psychology, personality, physiology, and circumstance

These factors can influence the accuracy of judgments made by influencing the selection of relevant information from available information, the weighting applied to that information and subsequent forecasts

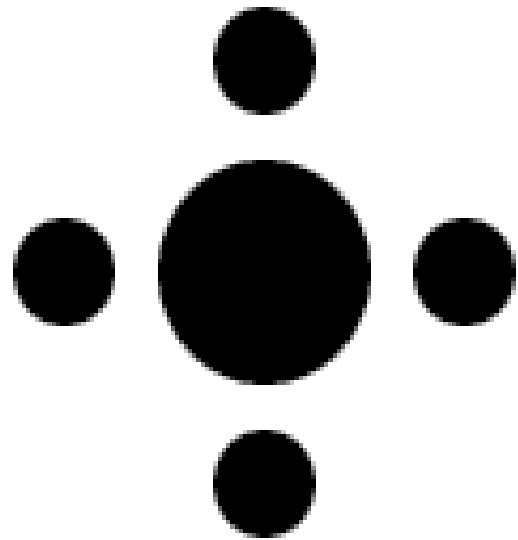
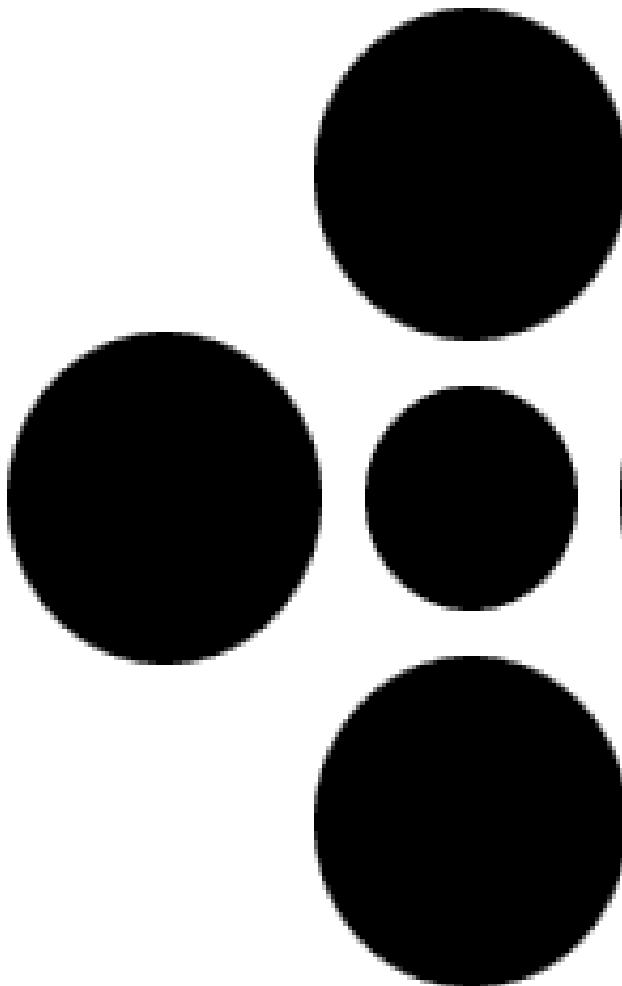
Two individuals presented with the same available information may produce widely differing judgmental forecasts

How good is your Judgment?



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Which is the larger inner Circle?



Which line is Longest? Centred?





Further Judgment Exercise

Please count the number of times the letter F appears in the following sentence:

FINISHED FILES ARE THE RESULT OF YEARS OF
SCIENTIFIC STUDY
COMBINED WITH THE EXPERIENCE OF YEARS.

FINISHED **F**ILES ARE THE RESULT OF **F** YEARS OF **F**
SCIENT**F**IC STUDY
COMBINED WITH THE EXPERIENCE OF **F** YEARS.

Judgmental Biases- Individual



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Further issues arise because of **inconsistency** in decision making for a **given individual** over many almost identical decision situations

People are often **unable or unwilling to apply the same criteria or procedures** when making similar decisions

Inconsistency may be due to **forgetfulness, mood, boredom, novelty-seeking, or belief conditions have changed when they haven't**

Research indicates a given individual can make **widely varying decisions** using almost identical information **depending on circumstances**



Other Problems and Biases

Recency – remembering **recent events more vividly**, which consequently influences our judgement more greatly than less recent events

Beliefs about Information:

1. **Belief that the more information we have, the more accurate our decision will be.** Empirical evidence does not support such a belief. More information increases our confidence that we are right without necessarily improving accuracy

2. **Belief that we can discriminate between useful and irrelevant information.** Empirical evidence indicates that is rarely the case.



Interpretation of Information

Given the inability to discriminate between useful and irrelevant information, **often irrelevant information is used in making decisions. This decreases decision-making accuracy**

Most people seem to weight **'verbal' information more heavily** than **numbers or statistical information** and tend to include qualitative information (that is often irrelevant) in preference to quantitative information (that is often relevant)

Our system of learning is **biased towards analysis of verbal, oral and aural cues** and **against mathematical and other objective information**



Consider this Exercise

Linda is 31 years old, single, outspoken and very bright. She majored in philosophy. As a student, she was deeply concerned with issues of discrimination and social justice, and also participated in antinuclear demonstrations.

Which of these two alternatives is more probable?

(a) Linda is a bank teller

(b) Linda is a bank teller and active in the feminist movement

Which alternative would you choose?

Conjunction Fallacy

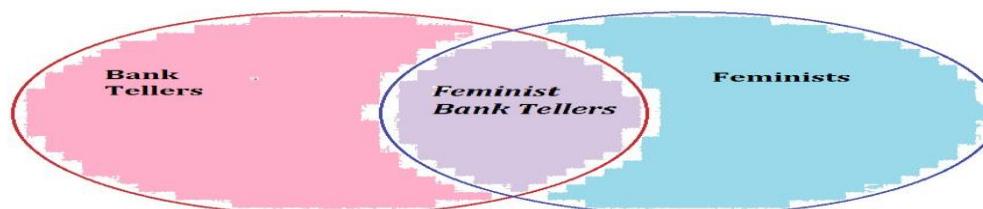


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Assume you chose (b), just as most subjects - 80% to 90% - in previous experiments did

Tversky and Kahneman (1983) argue: **(b) is the conjunction of two facts**, namely that Linda is a bank teller and is active in the feminist movement, whereas (a) is one of the conjuncts

Since the **probability of a conjunction cannot be greater than that of one of its conjuncts**, the correct answer is (a), not (b).



Therefore, your judgment is recorded as an instance of a celebrated reasoning error, known as the **conjunction fallacy**



Judgmental Biases - Group

Evidence suggests that group decision making **amplifies biases** because of **organisational issues, politics, personality, psychology and circumstances**

Typically, **responsibility for the decisions taken cannot be attributed to any single individual** possibly influencing **accountability and decision making input and process**

Herding behaviour and group-think are particular problems that may bias decisions

Issues of **power and conflict** are possibly relevant



Group-think

Group-think is a concept which suggests that individuals will behave and react differently to stimuli if in a group situation

Decision processes within groups may bias judgments leading to inaccuracy of decisions and forecasts

Group-think may be a political phenomenon or a reflection of personality of team members

Group-think is exacerbated when there is high group cohesiveness and insulation

Also exacerbated if there is dominant leadership and power/conflict issues within the group.

Accuracy Of Judgmental Forecasts – Financial Markets



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Financial Markets - Graham and Harvey (1995)

Only 22.8% of investment newsletters have average returns higher than a passive portfolio of equity and cash with the same volatility

Poor performance more persistent than good performance

Found no evidence investment letters have any knowledge over and above common levels of predictability. Very few investment letters can 'beat' S&P 500.

Few can beat the market forecast derived from a statistical representation of publicly available information

There is no evidence that the letters can time the market (forecast direction of the market) Investment letter 'winners' rarely win again and 'losers' often again



Forecast “Gurus”

Some investment gurus have outperformed the market but they represent a **tiny exception to the rule;**

Past above-average performance does not indicate such performance will continue in the future

All evidence points to the one conclusion;

All markets where information is widely disseminated and that cannot be influenced by a few players makes it **impossible to predict them accurately other than by using today's price as the best possible forecast (naïve)**