

Biases in tax enforcement decision-making

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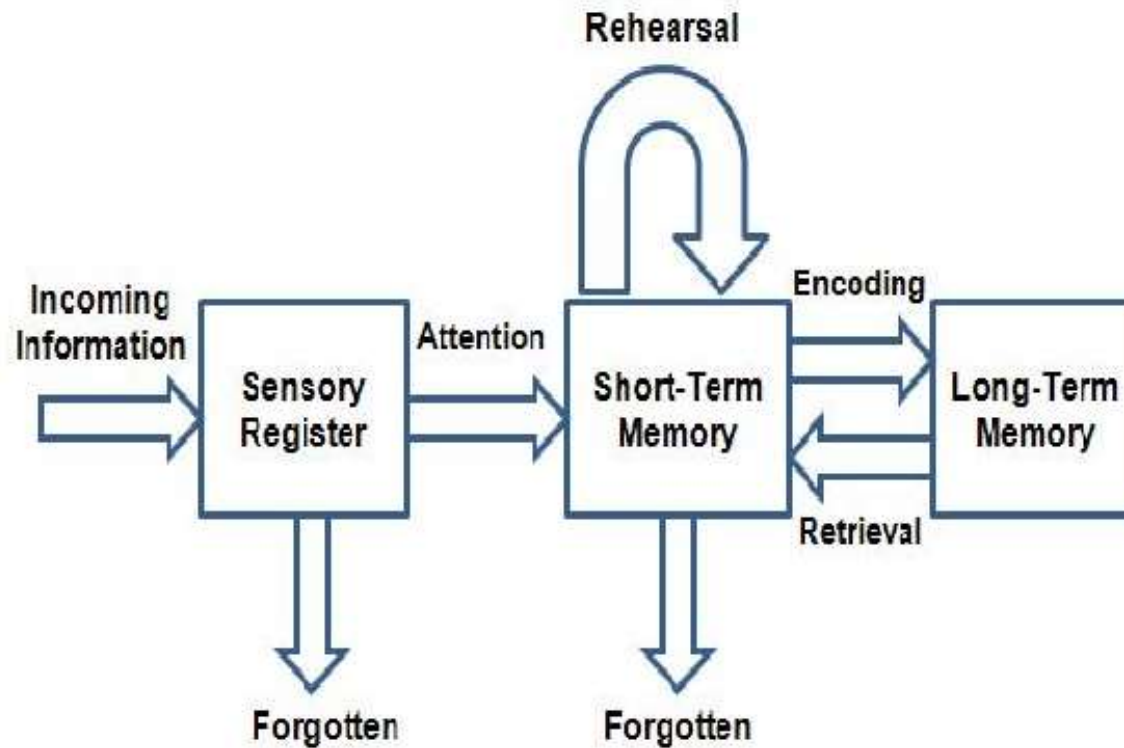
Overview

- Tax enforcement decision-making
- Human reasoning: limited memory capacity, cognitive biases & noise
- Algorithms at the rescue?
- Legal considerations

Tax enforcement decision-making

- Tax audit selection
- Data collection on taxpayers
- Interpretation and application of tax law
- Discretion in administrative sanctions
- Decision-making in administrative procedures

Human reasoning



Atkinson-Shiffrin Memory Model (1968)

Human reasoning

Cognitive biases

- Heuristics, mental shortcuts
- Confirmation bias
- Implicit racial bias (stereotypes)
- Anchoring
- Availability bias
- Susceptibility to Overpersuasion
- ...



Human reasoning



Noise

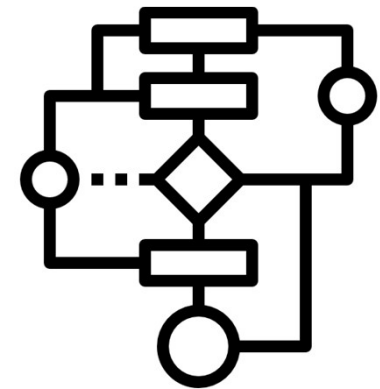


Algorithms at the rescue?

In fact, most of the errors that people make are better viewed as random noise, and there is an awful lot of it. Admitting the existence of noise has implications for practice. One implication is obvious. **You should replace humans by algorithms whenever possible.** Even when the algorithm does not do very well, humans do so poorly and are so noisy that, just by removing the noise, you can do better than people.” (Kahneman, 2019)

Algorithms at the rescue?

- Huge capacity, speed, accuracy, consistency
- However
 - More intrusive
 - Bias in training data is replicated, perpetuated and amplified
 - Automation bias: propensity to favor suggestions from automated decision-making systems



⇒ E.g., NL court of De Haag, decision of 5 February 2020, SyRi case
<https://uitspraken.rechtspraak.nl/inziendocument?id=ECLI:NL:RBDHA:2020:1878>

Legal considerations

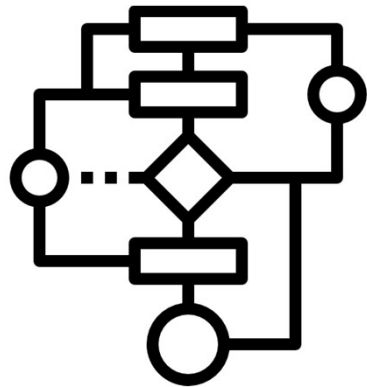
- Non-discrimination – European Court
 - Differences in treatment devoid of “*an objective and reasonable justification*”
 - No difference in treatment based exclusively or to a decisive extent on a person’s ethnic origin is capable of being objectively justified in a modern democratic society built on the principles of pluralism and respect for different cultures
 - Differences in treatment on the basis of gender or sexual orientation may only be justified by very weighty reasons

Legal considerations

- Non-discrimination – European Court
 - Indirect discrimination
 - Measures which, though couched in neutral terms, have a particular discriminatory effect on a particular group
 - Indicators indirectly referring to race, national origin or other protected attributes, e.g., foreign family names, place of birth, existing ties with another country (like having real estate there)

Conclusion

- How algorithms are being used is crucial
 - Testing
 - Opportunity to identify and mitigate (human) biases





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