

White Paper: Irrational Policies

How cognitive bias and heuristics shape decisions about insurance



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Why customers make irrational choices about insurance

When visitors search for insurance, they receive a menu written in a foreign language. Having navigated terms like “maximum benefit”, “third party”, and “telematics”, they must then choose limits, excess settings, and a curiosity shop of add-ons.

Insurers assume that customers will digest all of this before weighing their risks against the premium. In reality, most people do not go shopping with a calculator.

Whilst insurers view policies in mathematical terms, customers think about probability and risk at a more human scale. Because of that, consumers often make surprising choices.

- Demand for disaster insurance peaks after an earthquake before quickly declining. Knowing someone who has experienced a flood makes a customer more likely to buy cover.
- Life insurance is neglected by high-risk groups, even when it is heavily subsidised, but product warranties are popular even when the premiums are greater than the risk they insure.
- Customers pay inflated premiums to remove small excesses from their policy but don't always bother to claim when eligible.

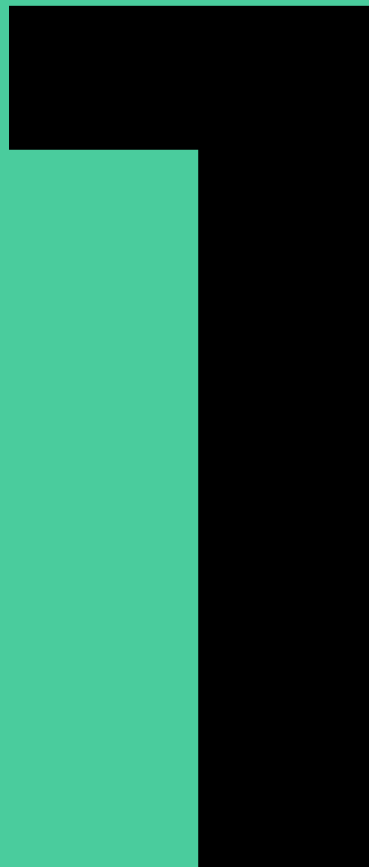
When faced with complex products, missing information and overwhelming choice, customers do not have the time or resources to evaluate their insurance options carefully. Instead, they rely on context (such as reviews and industry awards) to find legitimate brands and use mental shortcuts (“heuristics”) to evaluate policies.

Economising the mental effort required to evaluate their options leaves customers vulnerable to systematic errors. Understanding these effects helps to explain the seemingly irrational choices they make.

This white paper outlines 14 cognitive biases and decision-making heuristics that commonly guide insurance purchases. Insurers can use these insights to build products that give customers real peace of mind, whilst marketing teams can use them to communicate more effectively.

Probability and Risk

Biases and heuristics relating to chance.



1.1 The Availability Heuristic (Tversky, 1973)

"Availability" describes how easy it is to think of examples for something. When a threat is at the forefront of your mind, it feels more likely regardless of the statistical probability. Availability can cause people to overestimate the likelihood of events that receive a lot of media coverage.

This feeling is one reason sensational risks (like a shark attack or a plane crash) seem more likely than they are in reality.

How does it work?

Because situations seem more likely when they are highly "available", customers are more likely to insure themselves against risks when there are examples to consider. This heuristic might cause a customer to buy insurance they don't need or to ignore a threat (such as a natural disaster) with few recent occurrences.

"...people assess the frequency of a class or the probability of an event by the ease with which instances or occurrences can be brought to mind."

Tversky and Kahneman (1974)

What does it mean for insurers?

Rather than simply explaining why their products are important, insurers should illustrate the risk of not being insured with examples. Equally, product teams should be aware of threats that cause a lot of anxiety for their customers, even if they aren't grounded in statistics.

Key research and publications

- Amos Tversky, "Availability: A Heuristic For Judging Frequency and Probability", Cognitive Psychology 5 (1973), 207-232.
- Amos Tversky and Daniel Kahneman, "Judgement Under Uncertainty: Heuristics and Biases", Science 185 (1974), 1124-1131.

1.2 Risk Salience (Slovic, 1987)

A “salient” idea sticks in your mind and feels more concrete than others. Some risks provoke a disproportionate level of anxiety due to their salience.

Whilst policy makers assess the value of safety measures using statistics and cost/benefit analyses, most people base their decisions on how the risk makes them feel.

How does it work?

Factors like uncertainty, dread, and unfairness make some threats (such as aeroplane crashes or nuclear catastrophes) particularly unsettling. By contrast, mundane risks (such as the annual winter flu) are often neglected despite causing much harm.

What does it mean for insurers?

Insurers should use survey and interview data to identify the most distressing features of a potential loss or mishap. Product teams can then develop specific features that address these anxieties.



Key research and publications

- Paul Slovic, “Perception of Risk”, Science 236 (1987), 280-285.
- Howard Kunreuther and Paul Slovic, “Science, Values, and Risk”, Annals of the American Academy of Political and Social Science 545 (1996), 116-125.

1.3 The Representativeness Heuristic (Tversky and Kahneman, 1974)

The “representativeness heuristic” is a way of estimating how likely something is by judging whether it “looks right” or “fits”.

How does it work?

When someone is evaluating the likelihood of an event, they will often ignore underlying statistics and instead focus on superficial “representativeness”.

Most people expect events to occur at regular intervals so that the overall probability is reflected in small samples. When looking at the following equally likely sequences of coin tosses, survey participants usually judge the first to be more probable than the others:

A) Heads - Tails - Heads - Tails - Tails - Heads

B) Heads - Heads - Heads - Tails - Tails - Tails

C) Heads - Heads - Heads - Heads - Heads - Tails

This bias happens because sequence B does not represent randomness, while sequence C does not represent the coin's fairness.

The same heuristic is responsible for mistakenly believing that a rare event is less likely in the years immediately following an occurrence (an error known as the “gambler's fallacy”).

What does it mean for insurers?

Following a claim, insurers need to highlight the fact that the underlying risk has not changed. Someone who has suffered flooding should be encouraged to renew their cover the following year.

Key research and publications

- Amos Tversky and Daniel Kahneman, “Judgement Under Uncertainty: Heuristics and Biases”, Science 185 (1974), 1124-1131.
- Johannes Jaspersen and Vijay Aseervatham, “The Influence of Affect on Heuristic Thinking in Insurance Demand”, Journal of Risk and Insurance 84 (2017), 239-266.

1.4 Risk Threshold (Slovic, 1987)

When a risk is sufficiently improbable, people behave as if the likelihood is zero. Beyond a minimum threshold, any threat, however grave, is typically ignored.

How does it work?

Small-scale games of chance demonstrate the same threshold effect that policy makers observe in patterns of insurance take-up. Experimentally, as in real life, most people prefer not to insure rare, catastrophic events. Even those living in high-risk areas must be persuaded to purchase disaster insurance through government subsidies and awareness campaigns.

When risk is difficult to evaluate at an everyday scale, the cost of insuring it outweighs the peace-of-mind insurance provides. Because there is no immediate value to such a policy (even to reduce anxiety), the decision to continually renew it rests on long-term rational thinking and the exclusion of short-term biased thinking.

What does it mean for insurers?

Insurance for rare but catastrophic events is an important mechanism because it distributes risk throughout a population. Peculiarly, despite the relative unpopularity of disaster insurance, public services like the NHS (which incorporate a form of insurance) are very popular. This suggests that insurers could repackage their services to make them more attractive.

Many risks fall below the threshold when viewed annually, even though the lifetime risk is relatively high. Insurers can overcome this short-term bias by stretching the duration of a policy so that the level of risk it covers rises above the threshold (for example, selling flood insurance for 20 years).

Key research and publications

- Paul Slovic, "Perception of Risk", *Science* 236 (1987), 280-285.
- Howard Kunreuther and Paul Slovic, "Science, Values, and Risk", *Annals of the American Academy of Political and Social Science* 545 (1996), 116-125.

The Value of Insurance

How bias drives purchasing behaviour.



2.1 The Affection Effect (Hsee, 2000)

When someone is emotionally attached to the thing they are insuring, it changes how they think about the cover. People will pay more for the policy than they would to insure something they were not attached to and are more likely to make a claim.

How does it work?

A survey at the University of Chicago in 2000 showed that participants would be willing to pay twice as much to insure an antique clock with an emotional back-story than they would be to insure one without any context. Similarly, participants responding to a series of hypothetical choices were willing to pay 20% more to insure a vase they “loved” rather than an alternative vase of equal value.

What does it mean for insurers?

Insurers should be aware that a customer’s attachment to the insured object is central to their decision-making process. Awareness campaigns and website content should consider the insured item’s intrinsic value as well as its extrinsic worth.



Key research and publications

- Philip Cook and Daniel Graham, “The Demand for Insurance and Protection: The Case of Irreplaceable Commodities”, Quarterly Journal of Economics 91 (1977), 143-156.
- Christopher Hsee and Howard Kunreuther, “The Affection Effect in Insurance Decisions”, Journal of Risk and Uncertainty 20 (2000), 141-159.

2.2 Loss Aversion (Tversky, 1973)

When offered a choice between different kinds of risk, people behave in a way that suggests losses have a greater emotional impact than gains. The mere fact of loss, however small, has a disproportionate effect on behaviour.

How does it work?

Most people are risk-seeking when it comes to losses, often choosing to risk a larger loss rather than accepting a sure, smaller loss. This effect explains why gamblers "chase losses" and why betting companies receive bigger bets towards the end of a session.

What does it mean for insurers?

Loss aversion should motivate customers to purchase insurance. However, this depends on a view of insurance as a long-term strategy rather than a short-term investment. Many customers do not renew policies when they haven't claimed because they see it as a failed investment.

"The displeasure associated with losing a sum of money is generally greater than the pleasure associated with winning the same amount, as is reflected in people's reluctance to accept fair bets on a toss of a coin."

Tversky and Kahneman (1981)

Key research and publications

- Daniel Kahneman and Amos Tversky, "Prospect Theory: An Analysis of Decision Under Risk", *Econometrica* 47 (1979), 263-291.
- Daniel Kahneman and Amos Tversky, "Loss Aversion in Riskless Choice", *Quarterly Journal of Economics* 106 (1991), 1039-1061.

2.3 Time Preference (Tversky, 1973)

“Time preference” (sometimes called “hyperbolic discounting”) describes the disproportionate appeal of immediate, rather than delayed, gratification. There are economic advantages to getting something sooner, but “time preference” captures the non-rational aspect of the bias towards immediacy. For example, discounting is more significant for gains than losses, with large outcomes discounted more than small ones.

How does it work?

In many industries, time preference is a way to add value to a product at a marginal additional cost (for example, with 1-day delivery). Although there are few concrete opportunities for financial services to leverage time preference, it reinforces the importance of responding to claims immediately.

The reverse aspect of time preference, in which people prefer to defer losses, explains why many customers choose to defer their premium by paying monthly.

What does it mean for insurers?

The preference for having something now rather than later is a strong disincentive for insurance and may motivate customers not to buy the cover they need. For this reason, insurers must try to make it feel as though a policy purchase provides immediate value, communicating the essence of protection as concretely as possible.

Software providers often deliver their products in virtual “boxes” that customers open to receive their purchase. Using tangible imagery to make a cover period feel substantial can help to shift the customer’s perception of the product (and when they first use it) from the point of claiming to the policy start date.

Key research and publications

- Shane Frederick, George Loewenstein and Ted O'Donoghue, “Time Discounting and Time Preference”, *Journal of Economic Literature* 40 (2002), 351-401.
- Michael Daly, Liam Delaney and Colm Harmon, “Psychological and Biological Foundations of Time Preference”, *Journal of the European Economic Association* 7 (2009), 659-669.

2.4 The Certainty Premium (Kahneman and Tversky, 1979)

People usually prefer sure gains over the mere possibility of more significant gains. Similarly, the value placed on something that guarantees absolute safety is generally much higher than something that reduces risk - even if the reduction offers better value.

How does it work?

Most people reject the notion of probabilistic insurance (for example, a policy that costs half as much but only covers the holder every other day). A probabilistic policy that only compensates half the time would be worth less than half as much as a full-time policy.

What does it mean for insurers?

The disproportionate appeal of certainty suggests that policies should have as few contingencies as possible. It also highlights the importance of trust; customers will be willing to pay more for a policy if they are sure the provider will pay out when necessary.

"A protective action which reduces the probability of a harm from 1 percent to zero... will be valued more highly than an action that reduces the probability of the same harm from 2 percent to 1 percent."

Tversky and Kahneman (1981)

Key research and publications

- Daniel Kahneman and Amos Tversky, "Prospect Theory: An Analysis of Decision Under Risk", *Econometrica* 47 (1979), 263-291.

2.5 Myopic Loss Aversion (Thaler, 1997)

Myopic loss aversion occurs when two characteristics are combined:

1. Greater sensitivity to losses than gains
2. Checking outcomes frequently

People tend to undervalue long-term investments and abandon sensible strategies when this happens.

How does it work?

Insurance can seem like a bad investment when each year is viewed in isolation. At the end of each term, most customers will not have received a financial return.

This is one reason why people in high-risk areas cancel their disaster insurance after a few years without claiming.

What does it mean for insurers?

The best insurance policy is one that you don't use. Whilst this makes sense in abstract terms, it feels less meaningful at the point of renewal (especially for those under severe financial pressures). Insurers must encourage customers to think about their policies as a long-term strategy, rather than as a short-term investment, and should prompt them to consider renewal well before their policy expires.



Key research and publications

- Richard Thaler, "The Effect of Myopia and Loss Aversion on Risk Taking", The Quarterly Journal of Economics 112 (1997), 647-661.
- Gerlinde Fellner and Matthias Sutter, "Causes, Consequences, and Cures of Myopic Loss Aversion", The Economic Journal 119 (2009), 900-916.

2.6 The Consolation Effect (Hsee, 2000)

In some ways, insurance acts as a guarantee of emotional compensation. As well as helping customers to deal with unexpected costs, making a claim can help to soften the pain of loss.

How does it work?

Survey data suggests people will go to greater lengths to claim compensation for meaningful items than they will for possessions they feel less attachment to. This trend is consistent and occurs even if the amount of compensation is the same.

Insurance serves as a form of consolation, protecting the policy holder from the emotional (rather than just financial) impact of a loss. In some cases, the act of making a claim may serve an important therapeutic role for the policy holder.

What does it mean for insurers?

The emotional role of insurance should be an important consideration when conceptualising and describing a policy. As such, the process of making a claim should be organised to enhance its consoling effect.

Insurers should think carefully about product features that are not purely monetary. For example, end-of-life cover for pets may help bereaved pet owners cope with their loss as well as helping them pay unexpected costs.

Key research and publications

- Philip Cook and Daniel Graham, "The Demand for Insurance and Protection: The Case of Irreplaceable Commodities", *Quarterly Journal of Economics* 91 (1977), 143-156.
- Christopher Hsee and Howard Kunreuther, "The Affection Effect in Insurance Decisions", *Journal of Risk and Uncertainty* 20 (2000), 141-159.

Choosing a Policy

Why customers make irrational choices.



3.1 The Isolation Effect (Tversky, 1972)

When people face a difficult choice between two complicated options, they often disregard shared features and compare the differences in isolation. This effect can cause a disproportionate focus on relatively unimportant details.

How does it work?

The isolation effect is one reason why “add ons”, free features and minor price variations have a disproportionate influence on consumer decisions. Rather than comparing two similar policies as whole entities, customers treat the fundamental characteristics as identical and instead focus on more easily compared features.

“In order to simplify the choice between alternatives, people often disregard components that the alternatives share, and focus on the components that distinguish them.”

Tversky and Kahneman (1979)

What does it mean for insurers?

When designing policies, insurers must draw from user research that shows which characteristics consumers typically isolate when comparing options. Similarly, when presenting multiple product tiers on a single page, marketing teams should avoid designs that steer visitors towards misleading comparisons between policies.

Key research and publications

- Amos Tversky, “Elimination by Aspects: A Theory of Choice”, *Psychological Review* 79 (1972), 281-299.
- Daniel Kahneman and Amos Tversky, “Prospect Theory: An Analysis of Decision Under Risk”, *Econometrica* 47 (1979), 263-291.

3.2 Mental Accounting (Thaler, 1990)

Even though money has equal value in all contexts, people approach financial decisions very differently depending on which aspect of their lives or which mental "account" is involved. For example, most people are more reckless when gambling winnings than with their original stake.

How does it work?

Mental accounts cause people to be excessively frugal in some circumstances (such as not investing in things they use every day in order to meet a budget) and comparatively careless in others (such as charging too little when selling a house or buying expensive drinks in cinemas and restaurants).

"People pay attention to sunk costs. They buy things they don't need because the deal is too good to pass up. They quit early on a good day."

Thaler (1999)

What does it mean for insurers?

The mental account in which people place insurance will significantly affect the quality of cover a customer is willing to purchase. For example, someone who includes home insurance in a budget that also covers bills and maintenance may try to reduce their premium by purchasing insufficient cover. A person who views the same insurance as an adjunct to their mortgage may insure their home more carefully.

Key research and publications

- Richard Thaler, "Mental Accounting and Consumer Choice", *Marketing Science* 4 (1985), 199-214.
- Richard Thaler, "Anomalies: Fungibility and Mental Accounting", *Journal of Economic Perspectives* 4 (1990), 193-205.
- Richard Thaler, "Mental Accounting Matters", *Journal of Behavioural Decision Making* 12 (1999), 183-206.

3.3 Social Proof (Salganik, 2006)

When someone is unsure about a decision or how to behave, they look for social cues that help them. When there is a lot of missing information or unknown factors, context such as group consensus or the opinions of an authority figure become highly influential.

How does it work?

Because much social context is missing when customers shop online, cues like reviews, endorsements and branding help them choose between similar options. Beyond a minimum trust threshold, social signals help customers to characterise different policies and identify important features.

What does it mean for insurers?

Insurers can increase conversions by displaying reviews and ratings or by showing visitors that similar customers have bought the same policy. These social signals must be refreshed continuously in order to retain their relevance.

"When two or three individuals give their judgements in the presence of each other ... the whole group establishes a range and a point of reference peculiar to the group. A norm once established in a group situation persists in the individual member..."

Sherif (1935)

Key research and publications

- Muzafir Sherif, A Study of Some Social Factors in Perception (New York, 1935).
- Mathew Salganik and Peter Dodds and Duncan Watts, "Experimental Study of Inequality and Unpredictability in an Artificial Cultural Market" Science 311 (2006), 854-856.
- Robert Cialdini, "Basic Social Influence is Underestimated", Psychological Inquiry 16 (2005), 158-161.

3.4 Default Effects (Samuelson and Zeckhauser, 1988)

Inertia has a powerful effect on consumer behaviour. For example, the majority of software users never update their original settings. Even strong preferences can be reversed simply by changing the default option.

How does it work?

Defaults shape both preferences and the way people think about a choice. For example, participation in organ donation rises from 15% in countries with an opt-in system to over 90% in countries that require non-participants to opt-out. Similarly, employees typically stick with the pension arrangements provided to them, giving employers a significant responsibility.

What does it mean for insurers?

Insurers create defaults without considering customer welfare. For example, they often use a high default excess to make pricing appear more competitive on comparison sites. Instead, basing default settings on popularity and feedback would build trust and help customers make better decisions.



Key research and publications

- William Samuelson and Richard Zeckhauser, "Status Quo Bias in Decision Making", *Journal of Risk and Uncertainty* 1 (1988), 7-59.
- Daniel Kahneman and Amos Tversky, "Loss Aversion in Riskless Choice", *The Quarterly Journal of Economics* 106 (1991), 1039-1061.
- Eric Johnson and Daniel Goldstein, "Do Defaults Save Lives?" *Science* 302 (2003), 1338-1339.

Designing Insurance for Humans



Rational Policies

Behavioural science and psychology provide a much-needed correction for an industry built on the fiction of rational customers.

When insurance is designed and sold as a financial product, customers struggle to compare the seemingly identical options and the competition between brands becomes a question of price. As well as risking “market unravelling” this race to the bottom makes it difficult for insurers to improve the quality of their service.

By reimagining their products with human customers in mind, insurers can avoid the pricing war that comparison sites create. Truly unique value propositions, which address customers’ anxieties and unlock hidden value, will allow insurance brands to compete on the basis of quality and customer experience. Because of the meaningful differences between policies, customers will no longer rely on simple price comparisons, and insurance will come to be seen as a service rather than a product.

For the past decade, industry experts have predicted market volatility due to the emergence of disruptive insurtech. Collecting and computing vast quantities of data in new ways has allowed insurance brands to manage risk with increasing sophistication. However, these innovations have not updated the fundamental design of policies themselves, merely reducing premiums and targeting market segments more accurately. Moving away from reductive arithmetical thinking will allow traditional brands to weather this disruption by opening up new ground on which to compete.



Further Information



About Conversion Services (CRO)

The Fresh Egg Conversion Rate Optimisation (CRO) team improves the commercial performance of financial services websites through experimentation.

Optimisation

Our analysts, user researchers and CRO strategists find design flaws that cost organisations money and then validate the solutions using A/B tests.

We have worked with some of the largest financial services providers in the UK, increasing profitability and improving user experience across their most important online properties.

More information

Please visit our website to learn more about how the Fresh Egg Conversion Services team optimises financial services websites.

www.freshegg.co.uk/cro

Read about our work with insurers and other financial service providers.

www.freshegg.co.uk/work/financial-services-insurance

About Fresh Egg

Fresh Egg is a full-service digital agency that combines specialist expertise in every aspect of online marketing. Founded in 2000, the agency has grown thanks to a blend of service, innovation and outstanding project delivery.

Notes

Notes



Get in contact

Contact us today to find out exactly what value and uplift could be achieved from your CRO programme and how to start accelerating your testing performance.

enquiries@freshegg.com

More to discover

Playbook - [Insurance Unleashed: Conversion Strategies for Insurers](#)

Webinar - [Performance Optimisation for Insurance Websites](#)

Article - [How to Sell Insurance to Irrational Customers](#)

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