

A Positive Typology of Irrational Decision Strategies

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Introduction

Fundamentally speaking, behavioral economics consists of an incoherent collection of heuristics and biases: There is no general theory that consistently connects and explains most of the effects under one conceptual umbrella. Indeed, many of these effects overlap, while some even contradict each other. None of this has been an issue so long as behavioral economics was primarily a '*negative*' endeavor focused on proving what people are *not*, namely the rational decision-makers that are assumed by standard economic theory. Behavioral economics has been hugely successful in debunking the notion of a *homo economicus*, but as yet it has failed to deliver a '*positive model*' of human choice as an alternative to rational choice theory. Based on thousands of experiments, we know how people don't decide (i.e. rationally), but we *don't* yet have a consistent model that shows how they *do* decide.

Moreover, the classic behavioral economics research agenda has focused on analyzing if people normally fall into the trap of following a specific heuristic at a *specific stage* of a decision-making process, leading to a predictable bias in (stated) preferences. For example, research was undertaken to see if anchoring influences intuitive price estimates or if framing influences the initially perceived value of a product, and so forth. Hence, based on the classic experimental approach, the impact of small differences between choice situations is tested in carefully engineered cleanroom settings with a research design that magnifies effects. As a consequence, this research tradition has largely refrained from elaborating on the systematic irrationality of more *comprehensive* decision strategies which are applied to solve more complex decision tasks, such as real-world purchase decisions. If we look at this kind of complex decision task, the behavioral economics insights might even be misleading with their exclusive focus on specific dimensions and stages: For example, when answering the question as to whether it would be better to increase prices for a newspaper subscription to a certain level in one big step or many small steps, prospect theory would recommend increasing in one big step due to the decreasing slope of the value function (Kahneman & Tversky, 1979). However, this only covers the *price evaluation* dimension of this decision and ignores the *price knowledge* dimension, thereby totally disregarding the fact that – in reality – price increases will in most cases be forgotten after a few months (Bauer, 2011). Moreover, a small step is less likely to trigger an ad hoc cancelation, whereas one big step will make this significantly more probable. Thus if one takes a comprehensive look at the real-world decision (and not from a laboratory perspective), the correct recommendation in most cases is to increase in more frequent but smaller steps rather than less frequent but bigger ones (Bauer, 2013).

Finally, it might be worthwhile challenging another implicit tenet of behavioral economics, namely the idea that people do not systematically differ in terms of the kind of mistakes they make in a given choice situation. Behavioral economics tends to adopt a general rather than a differential perspective on human decision-making. Just as standard economic theory assumes that everybody always decides rationally, behavioral economics seems to assume that everybody decides in a predictably irrational – and similar – manner in every situation. Interpersonal differences with respect to heuristics and biases have not been the focus of behavioral economics research.

These three blind spots of behavioral economics have not been an issue so long as research has concentrated on the academic endeavor of challenging and refuting classic economic

theory. Nevertheless, these phenomena need to be resolved before the insights can be systematically applied in effectively designing the architecture of real decisions. To do this, we need to go beyond inductively picking one effect after the other in an experimental ‘trial and error’ approach, simply copying designs from academic research to the real world – which is probably the least efficient way of trying to apply behavioral economics.

Hence as a consulting company which focuses on applying behavioral economics to develop marketing, pricing and sales strategies, we had to answer the following questions in order to systematically leverage the insights in our projects:

- *Positive model*: How do people actually decide (beyond the fact that they are unable to decide rationally) so that we can predict and influence decision behavior?
- *Comprehensive strategies*: How are different heuristics and biases merged into comprehensive strategies which solve more realistic and complex decision tasks, thereby enabling us to apply behavioral economics to complex real-world behavior?
- *Individual differences*: Do we need to distinguish between different irrational strategies which inherently follow different psycho-logics and are sensitive to different biases (as traits or states) so that we can adapt to different choice situations (categories, channels, etc.)?

These questions have neither been posed nor answered in the normal research literature, so we had to dive into answering them on our own. In this paper, we want to show how we have condensed core behavioral economics insights to create a general typology of predictably irrational decision strategies which comprehensively describe the different psycho-logics of human choice, rather than simply looking at individual effects. For more than a decade, we have applied this typology in international projects in the area of marketing, pricing and sales in B2C as well as B2B industries, and we now want to provide examples and case studies highlighting the added value of this typology and the way in which it facilitates the systematic application of behavioral economics in a business context.

A Brief History of the GRIPS® Typology

The ultimate goal of marketing, pricing and sales is to influence purchase decisions, so a comprehensive understanding of human decision-making is a key success factor for marketers. Nevertheless, trying to systematically apply the insights of behavioral economics in the real world can be a thankless task, especially if one wants to go beyond the mere copying of academic research designs. In our case, we definitely wanted to look behind individual effects in order to extract the essence of the collected insights, and design our interventions on this basis. To do this, we first had to sort, relate and combine the numerous effects that have been published – but this is easier said than done. Frustration already sets in if one tries to eliminate the contradictions that accompany popular listings of heuristics and biases (Benson, 2016). Some of their implications for marketing strategies are strikingly contradictory: Should I offer one option in order to avoid the ‘paradox of choice’ (Schwartz, 2004), or two options so I can leverage the second one as an anchor (Jacowitz & Kahneman, 1995), or maybe even three so I can exploit the ‘Goldilocks effect’ (De Ridder, 2008)? Moreover, the naming of effects is completely inconsistent: some refer to their bias (e.g. ‘hyperbolic discounting’), some to their heuristic (‘elimination by aspect’), some to their external trigger (e.g. ‘framing’), and some to their psychological cause (e.g. ‘risk aversion’). Furthermore, different wordings are sometimes used

to describe quite similar things from different academic perspectives (e.g. 'endowment effect', which describes an effect from an economic perspective versus 'loss aversion', which describes the reason for it from a psychological perspective). Finally, explanations of some effects are all too eager to combine different insights, which tends to muddy the waters rather than increase understanding of human decision-making. For example, the 'decoy effect' is often explained by referring to 'anchoring' (Smith, 2016) whereas the actual psychological foundation of both effects is quite different, as we will see later on when we observe that some decision strategies are more sensitive to 'anchoring' than a 'decoy', and vice versa. Viewed overall, this inconsistent groundwork makes it rather difficult to systematically apply behavioral economics – which in turn is not surprising, given that the focus has been on refuting standard economic theory rather than applying new insights.

From our perspective, the only way to develop an objective classification system as a basis for applying the heuristics and biases is to firstly ignore the typical wordings different researchers were using to name their findings, and secondly to solely rely on the objective classification of the independent variable that was experimentally varied, and thus obviously triggering the reported heuristic and bias in the underlying experiment. Logically, it was always these independent variables that were clearly not being rationally reflected in human decision-making, and they duly led to the respective differences between experimental and control groups. For example, the 'presence of a reference value' in a given choice situation is an objective independent variable of this sort which might trigger a predictively irrational decision bias. Instead of talking about the 'relativity' of human value perception (Kahneman & Tversky, 1979) or the perceived 'transaction utility' (Thaler, 2015a), we simply assign the underlying heuristic and bias to this objectively misconceived dimension instead of discussing different psychological constructs or theories. If one scrutinizes the research literature on this basis, one will end up with a mutually exclusive but collectively exhaustive classification hierarchy of qualitative and quantitative dimensions (Bauer, 2000). Despite their complexity, this has a unique advantage: It allows one to systematically classify and structure all the reported heuristics and biases in a coherent framework of dimensions which people are unable to rationally reflect in their decision-making strategies.

Having done this, we could design a master questionnaire which captures the presence of these notoriously misconceived dimensions in a given decision. For instance: "Had the price of the product you finally chose obviously been reduced, for example compared to the suggested retail price?" If that was the case, we quantified the subjective relevance of that dimension for the individual choice.

We then developed ten product-specific sub-versions of this questionnaire for a more realistic framing of questions, ranging from buying a car to insurance or soft drinks, or from booking an airline ticket to selecting a telco price plan. We did this because we wanted to end up with a general understanding of real human decision-making, and not a product-specific one. Using the same reasoning, we conducted this research in 16 countries across five continents because we wanted to ensure that we captured the essence of human decision-making regardless of any cultural differences. In total, we collected more than 30,000 decision datasets from respondents who had recently bought one of the ten predefined products or services in these countries.

Based on this questionnaire, we were able to comprehensively analyze the actual decision process the respondent had recently undergone. Without excessively restricting the focus

on specific biases, the construction of the questionnaire ensured that we captured all the bias-triggering dimensions that were (subjectively) relevant in the respective decision strategy; thus we were able to judge which heuristics and biases might have been involved. Finally, this helped us to deduce the different kinds of comprehensive decision-making strategies that people follow in the real world, and identify how many of them involve an inherent psycho-logic. To do this, we analyzed the dataset to segment decision strategies with regard to the notoriously misconceived dimensions these strategies were sensitive to. The core result was a typology of five decision strategies which are universally encountered across different products and cultures. We called this the GRIPS® typology (Bauer & Koth, 2014). None of these decision strategies are rational; each of them is 'irrational', yet they all follow their own implicit psycho-logic, which helps us to understand them beyond the constituent heuristics and biases that are merged in a special mix throughout their characteristic process.

Figure 1 provides an overview of the GRIPS® types; a short explanatory video is available at <https://youtu.be/oFgfkLBCQ0> or via the QR code.



Figure 1: The GRIPS® typology (Source: Vocatus).

The GRIPS® typology finally delivers answers to the questions that triggered the whole project:

- Positive model: We can now describe the psycho-logic people follow when making decisions in the real world, and not only what people fail to reflect from a rational perspective.
- Comprehensive strategies: We can now comprehensively look at the whole decision- making process, and not only selected stages of it.
- Individual differences: We can now describe five completely different decision strategies, with each of them following a specific psycho-logic and none of them being rational.

The most straightforward way to validate the GRIPS® typology is to reapply it to the study of heuristics and biases. If one analyzes the propensity to follow a certain heuristic and shows the resulting bias in the individual choice behavior, the different GRIPS® decision types exhibit

significantly different profiles based on the underlying psycho-logic of their decision processes. For example, the well-known ‘decoy effect’ (Huber, Payne & Puto, 1982) works very well for Bargain Hunters as it obviously signals a high transaction utility, whereas ‘anchoring’ does not influence their decision-making because a simple anchor does not implicitly guarantee that a bargain can be had, which is of course what Bargain Hunters are mainly sensitive to. Conversely, Price Accepters who are more interested in finding a good-value option which can satisfy their future needs are less likely to be influenced by a ‘decoy’ than a higher-priced ‘anchor’ (see Figure 2). This proves that the GRIPS® typology does indeed condense the insights of behavioral economics into a comprehensive typology of decision strategies. The key takeaway is that instead of merely talking about the difference between the *homo economicus* and the *homo heuristicus* (Gigerenzer & Brighton, 2009), we should start to elaborate the differences between various ‘*homines heuristici*’.



Figure 2: Behavioral economics effects are GRIPS-specific: ‘Decoy’ works much better with Bargain Hunters, while ‘anchoring’ is superior with Price Accepters (Source: Vocatus research projects).

It is worth mentioning that those differences are not linked to personality or character, but are a result of which heuristics work in which situation: For example, acting like a Bargain Hunter works in those sectors where getting a bargain is associated with low risk. For example, in the US automotive industry one can obtain considerable discounts without compromising on the product or service, so it pays to be a Bargain Hunter. However, other sectors have changed from being Bargain Hunter to Risk Avoider markets as customers have learned that falling for what initially seems a ‘good deal’ can turn out to generate higher costs in the long run, as is the case in the German fixed-line telco industry where monthly costs typically increase after a short period. Similarly, we are often Indifferent Buyers when we buy our favorite painkiller from a bricks & mortar pharmacy because we need immediate relief and cannot invest time in comparing prices; however, we can take our time and indulge ourselves as Bargain Hunters when we shop online to stock up on painkillers. Which decision strategy to apply, i.e. which GRIPS® type to inhabit, therefore depends on the category and channel, and does not reflect a personality trait but a state which is influenced by sector, channel, situation and personal experience.

The fact that GRIPS® segments situational decision strategies rather than people provides some food for thought for the classic ‘value-based’ marketing approach where most attention is focused on the value customers see in the product, and where this value is assumed to be somewhat stable – just like the underlying preferences the perceived value is based on. Traditional marketing is a notoriously ‘product-centered’ discipline which is primarily obsessed with trying to better explain and position the value of the product, believing that this will eventually lead to its purchase. In accordance with this notion, most marketing segmentations differentiate customers with regard to their preferences, i.e., *what* they want. GRIPS® adds a second dimension here because it is obvious that customers don’t only differ in terms of their preferences, but also in relation to their decision strategies. GRIPS® differentiates consumers in accordance with *how* they decide, so marketing should not only be about matching preferences (what to offer), but also about designing decisions (how to sell). If marketing wants to influence decisions, it should better reflect the differences in individual decision strategies and stop assuming that customers only differ in terms of their product-related preferences. Even if two customers want exactly the same product, we still have to adapt marketing, pricing and sales to cater for the fact that one of them may be a Bargain Hunter while the other may be a Price Acceptor. Reflecting this basic insight, companies should stop selling products and start designing choices.

Practical Implications of the GRIPS® Typology

From a practical perspective, there are two main implications of the GRIPS® typology: GRIPS® can help to improve classic marketing research tools, and GRIPS® can guide marketing strategy and tactics.

Improving marketing research tools: Many research tools (such as conjoint analysis) assume and/or induce (through the survey set-up) that people behave like the homo economicus (perfect product and price knowledge, high product and price interest, stable preferences), which duly forms the basis for calculating utilities and shares of preference. Integrating the GRIPS® typology into choice modelling by using hold-out tasks to calibrate utilities and shares of preference (specifically for each segment) significantly improves predictive validity (Bauer, 2012 a & b).

Guiding marketing strategy and tactics: Strategically, GRIPS® can help to challenge traditional myths and come up with counter-intuitive marketing strategies such as the integration of an independent price comparison tool on a last-minute travel website, which led to a 70% increase in conversion rates (see Bauer & Peters, 2013, for more details of this case study).

Tactically, it can directly influence the way one should market and sell at point of sale. One practical example of such a choice situation is the decision (not) to extend a mobile telco contract when contacted by a call center agent. In such situations, the GRIPS® types apply very different decision-making strategies: For example, they may see themselves as being ‘smarter’ than other customers (and even the agents) and want to negotiate (Bargain Hunters); alternatively, they may be insecure and seek the agent’s advice (Risk Avoiders). Call center agents who have received GRIPS® training can recognize their respective customer’s GRIPS® type within a few seconds, and can react appropriately. For example: should they agree to negotiate, give detailed information, or provide additional options to choose from? In a recent project, trained agents were compared with those who hadn’t received any GRIPS® training: The approach outlined above increased conversion rates by 35%, reduced the average handling time by 44%, and cut the level of discounts granted to each customer by 35% on average (for another case

study, see *Harvard Business Manager*, Köder & Koth, 2012). Applying GRIPS® in such cases always involves two steps: identification and (appropriate) treatment. Firstly, we have to identify which GRIPS® type the customer belongs to, and this can be based on training or the usage of machine learning. We were recently able to show that different GRIPS® types use characteristic words and sentence structures when talking to salespeople (Koth, 2018). Text identification tools combined with machine learning could consequently help to automatically identify the GRIPS® type. In the second step, the sort of treatment that is appropriate for the respective GRIPS® type is selected and applied in order to optimally support the decision strategy one is faced with. This also implies adapting to the characteristic heuristics and biases of the respective GRIPS® decision strategy.¹

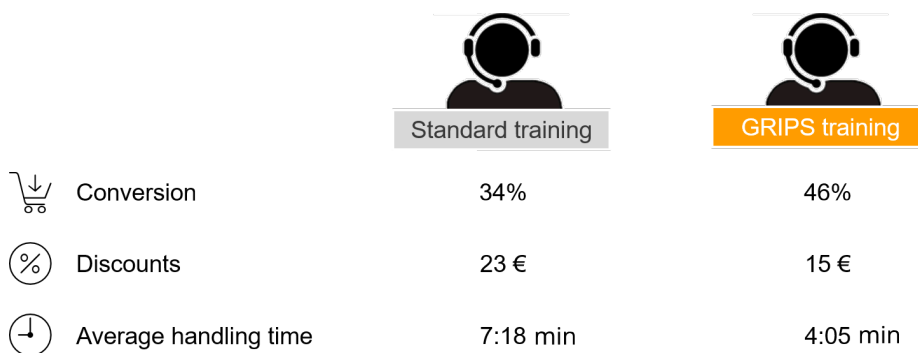


Figure 3: The application of GRIPS® in the call center improves the performance of every relevant KPI (Source: Vocatus research project).

Incidentally, GRIPS® is not only valid in a B2C context: We have successfully used this typology in many B2B projects, since it reflects a universal typology of decision strategies.

Summary

By condensing key dimensions from behavioral economics, GRIPS® constitutes a positive model of real-world customer behavior: On the one hand, it condenses behavioral economics

¹ A short note on ‘manipulation’: In the academic discussion around nudging, people often try to distinguish between ‘nudging for good’ versus ‘nudging for bad’ (Thaler, 2015b). From a practical point of view, we to some extent regard this discussion as being bigoted and divorced from the real world, mainly due to three reasons: Firstly, as Paul Watzlawick once noted in the context of communication, ‘one cannot not communicate’ (Watzlawick, Beavin & Jackson, 2011); in the context of marketing, we would argue that ‘one cannot not manipulate’. Marketing is and always has been about influencing customers’ decisions. Secondly, marketing has also always been about increasing conversion, market share and profitability, regardless of the fact that this might be at the expense of reducing consumer’s rent. Thus the core difference between traditional marketing techniques and the one that leverages behavioral economics insights is not of a motivational nature; instead, the distinction relates to the underlying model of decision-making, i.e. an inappropriate rational model versus a more valid – and predictively irrational – one. Thirdly, the criticism of nudging itself somehow still builds on the assumptions that behavioral economics has been refuting, since it implies that a purchase decision is always a kind of zero-sum game: What the seller gains, the buyer loses. However, if one looks at the psychologies of the different GRIPS® types, we can see that Risk Avoiders shun unexplained discounts because they make them doubt the quality of the product, whereas Bargain Hunters need them as proof that they truly are smart buyers. One type is more satisfied with their purchase decision if there aren’t any discounts, while the other is more satisfied if there are. The subjective welfare of both types is improved via differentiated treatment, while the objective or ‘rational’ welfare is not. Judging (on the basis of the latter) that this is a bad use of behavioral economics insights is an illogical argument since it is predicated on the rational decision model which behavioral economics has taught us to see as invalid.

insights, while on the other hand it provides the basis for more selectively applying and leveraging these insights in a specific decision. All in all, GRIPS® has demonstrably allowed a much more systematic and effective application of behavioral economics insights in the marketing world, rather than trying to apply individual, overlapping, and even contradictory effects. It is based on comprehensive decision-making strategies, so can predict consumer behavior in real-world decisions. It reflects individual differences – such as varying responsiveness to behavioral economics effects and varying behavior in different categories and channels – which are nonetheless not driven by the consumer’s personality (traits) but by their experiences of which decision strategy has proven valuable in which choice situation (states). In this respect, GRIPS® is a second dimension and a valuable complement to the classic perspective of value-based customer segmentations.

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