

Advanced Seminar in Economics & Policy

Decisions under Uncertainty from Description and from Experience

Dr. Orestis Kopsacheilis, Technical University of Munich

The Impact of Complexity on the Description-Experience Gap

Introduction: An often overlooked aspect of the decision-making environment is the complexity of the options at hand. It has been argued that previous patterns of risky choice can be explained by complexity aversion. This paper investigates how complexity influences the decision-making process by running experiments where the choice information is presented either from description or from experience.

Methods: In an online experiment, participants are randomly allocated in one of four conditions: Description Simple, Experience Simple, Description Complex or Experience Complex. Based on the previous work of Zilker et al. (2020), we introduce complexity by making the outcome of the safe option require numerical calculation.

Option A	Option B
You win 4 €	You win (2-0.5) x (12-10) €

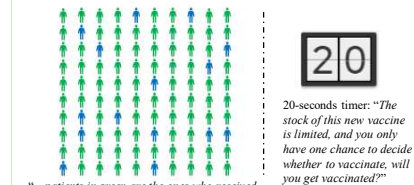
Figure 1: Option A offers 4€ 80% of the time and 0€ otherwise. Option always offers 3€ but this information is represented in a numerically complex format.

Results: Our comparison of Description Simple with Experience Simple replicates the canonical Description – Experience gap. However, the introduction of complexity has a mixed impact: when complexity is present in Description, the gap widens but when it is introduced in Experience, the gap shrinks.

The effect of time pressure on vaccine acceptance on decisions under uncertainty from description and from experience

Introduction: The objective of this study is to understand the impact and the effect of time pressure on the decision-making of people regarding their willingness to accept a vaccine to protect them against a new, hypothetical, variant of COVID-19. Different formats of communicating the vaccine's efficacy are also compared.

Methods: We run an online survey and allocate participants into 4 treatments: Experience, Experience with time pressure, Description and Description with time pressure. In our hypothetical scenario, a vaccine for this new variant has been recently developed. In Description we provide information about the efficacy of this new vaccine in numerical format while in Experience through an analogical representation in a Figure. Time pressure is introduced via a countdown on participants' screen.



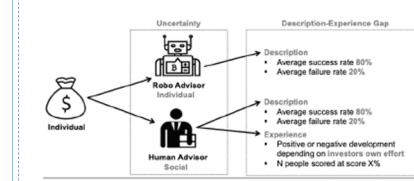
"...patients in green are the ones who received the vaccine and did not contract this new COVID-19 variant afterwards and the patients in blue are the ones who contracted it after the vaccination"

Results: Time pressure has little impact to the intention to vaccinate when the decision is made from Description (without time pressure: 75%; with time pressure: 81%). However, time pressure significantly mitigates the intention to vaccinate when the decision is made from Experience (without time pressure: 83%; with time pressure: 59%).

Robo-Advisory in Financial Decision Making – An Investigation of Decisions under Uncertainty from Description and Experience

Introduction: Wealth management is pursuing a radical transformation that will reshape the industry in the upcoming years (Boston Consulting Group, 2020; SimCorp, 2020). Especially robo-advisory services are gaining traction, having a strong influence on the decision-making of retail customers (Puschmann, 2017; Jung et al., 2018). This paper explores whether and how the format through which information is obtained, affects individuals' decision between human and robo-advisory.

Methods: In the experiment, the participants are asked to choose a human or a robo-advisor for investing a sum of money with professional advice on the stock market. The quality of the robo-advice is fixed at a certain level. The quality of the human-advice depends on the success rate of a real-effort task that a previous group of participants participated in. The success rate matches that offered by the robo-advice (80%). To test, whether the Description - Experience gap has an influence on this decision situation, the Description group learns about the quality of the human-advice through an objective numerical description. The Experience group on the other hand is asked instead to participate in the real effort task and infer from their experience the quality of the advice of the human-advice.



Results: When making the decision from Description, the majority of investors prefer the human advisor over the robo-advisor (76% vs. 24%). The preference over the human advisor disappears, if not reversed, in Experience (48% vs. 52%). Eliciting beliefs about success rates suggests that the reason for this "gap" is the lack of confidence people exhibit towards the performance of their cohort.

Maximizers' search strategy In relation to the Description-Experience Gap and Brand Loyalty

Introduction: In this paper, two concepts studying issues with rational behavior in decision-making are reviewed: the Description-Experience Gap (DE Gap; Hertwig et al., 2004) and maximizing versus satisficing search strategies. We further examine the relation of these topics to brand loyalty, a major influence on consumer behavior with a number of factors that relate to the DE Gap and maximization strategies.

Methods: In the first section of the survey, participants were grouped into description and experience scenarios randomly. Each scenario showed two options of a hypothetical product that was given twenty ratings ranging from 1 to 5 stars (5 stars being the maximum score), with an overall score of 3.5 stars, while the variance and distribution of ratings varied between the two options. The description group was shown a simultaneous view of the distribution of ratings as follows:

Distribution of ratings	Option A	Option B
5 stars (highest)	10%	60%
4 stars	40%	0%
3 stars	45%	0%
2 stars	0%	10%
1 star	5%	30%
Overall rating	3.5	3.5
Variance	0.8	3.8

Table 1: Distribution of ratings for options A and B.

The experience scenario group was shown one rating for each option sequentially and asked each time if they would make a decision or continue to view ratings, until the 20th. In the next sections, participants responded to questions regarding the brand loyalty (Lai 2011) as well as regarding maximization traits (Lai, 2010).

Results: A small and not significant DE gap is observed, whereby participants choose the option with the undesirable rare event more often in Experience (62%) compared to Description (57%). The gap increases when considering only the cases in Experience where the undesirable rare event was never sampled. Correlation analysis suggests that people who sampled more are also the ones who reported the decision to be harder but sampling behavior and maximizing tendencies or brand-loyalty did not correlate significantly.