

ABSTRACT
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The starting point was the limited rationality paradigm, in which corporate investment decisions—particularly in capital budgeting processes—are shaped by heuristic thinking tendencies and the resulting cognitive biases. The rationale for addressing this issue stems from the insufficient recognition of behavioral mechanisms in the real-world practices of evaluating and conducting tangible projects, despite the mature achievements of behavioral finance in the area of capital markets. The identified gap concerns, in particular, the way in which overconfidence, anchoring, planning optimism, and the tendency to escalate commitment modify risk perception, budget discipline, and project termination rules.

The aim of the monograph was to identify and measure the heuristic tendencies of decision-makers and then explain their relationship with investment decisions at the company level. The theoretical basis was built by integrating behavioral finance, decision psychology, and choice under uncertainty theory. The mechanisms of judgment and choice generation under conditions of information and time constraints were reconstructed, with an emphasis on: (a) anchoring and insufficient adjustment processes; (b) overconfidence resulting in underestimation of outcome variance and excessive risk; (c) planning optimism translating into systematic errors in budgets; (d) escalation of commitment in the presence of sunk costs. The theoretical framework is supplemented by the concept of decision architecture, treated as a set of organizational tools that limit exposure to bias.

The empirical part includes a mixed design. In the preparatory stage, qualitative interviews and expert panels were used to calibrate the measurement tools. This was followed by a quantitative survey of decision-makers responsible for tangible investments, using a questionnaire containing heuristic propensity scales, cognitive reflection and numerical proficiency test modules, as well as measures of risk preference and budgeting practices. Regression modeling and interaction and mediation tests were used; structural equation modeling was used in selected analyses. The closing stage took the form of in-depth case studies reconstructing decision-making paths in projects with diverse risk profiles.

The results obtained indicate significant links between cognitive profiles and investment decisions. A tendency to choose more risky configurations was observed in groups with increased self-confidence, as well as a concentration of forecasting errors around initial cost and schedule anchors, conducive to budget and deadline overruns. A tendency to maintain projects with deteriorating prospects in the presence of significant sunk costs was identified. At the same time, it was shown that formalizing reviews of input assumptions, applying stop-loss thresholds, and systematically validating data sources lead to a reduction in bias costs. The effectiveness of expert advice was found to increase in situations where decision-makers had little experience and to decline as their experience increased, suggesting a need for layered advisory policies.

The contribution of the monograph is theoretical and empirical in nature. On the theoretical side, it provides a coherent conceptualization of heuristic tendencies in the context

of capital budgeting and a model of the links between cognitive profiles and decision outcomes. On the empirical side, the results of field research on decision-makers in material projects are presented, showing the scale and conditions of bias disclosure and the effectiveness of organizational interventions. The presented results form the basis for further confirmatory research, including replication on larger populations, sectoral difference analyses, and comparative tests of alternative interventions in decision architecture.