

COGNITIVE BIASES IN VENTURE CAPITAL DECISION MAKING

*This white paper describes the impact of cognitive biases in the context of early-stage innovation financing with learnings derived from our second **BlackWood Lab** session with Assistant Professor at **Harvard Business School**, Thomas Graeber.*



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PREQUEL

In venture capital the clarity and accuracy of information transmission, coupled with the persuasiveness of startup narratives, play interesting roles in shaping investment outcomes.

Understanding and addressing the inherent biases in investment decision-making processes is beneficial, even essential, for success and fostering innovation.

This white paper, inspired by a BlackWood Lab discussion with Assistant Professor at Harvard Business School, Thomas Graeber, seeks to investigate two cognitive biases that influence the VC investment landscape:

- **Information Transmission Bias**
- **Explanation Bias.**

The discussion revealed the mechanisms and ways these biases manifest and should also serve as a blueprint for a broader investigation into their ramifications for investors and startups alike.

Objective and Scope



1 To Illuminate

To cast a spotlight on Information Transmission Bias and Explanation Bias, delineating their definitions, mechanisms, and examples within the context of venture capital investments.

2 To Analyze

To dissect the conversations and insights shared by Professor Graeber, augmenting them with relevant data and research findings that underscore the significance of these biases in the VC industry.

3 To Strategize

To propose actionable strategies and best practices designed to mitigate the impact of these biases, thereby enhancing the quality and efficacy of investment decision-making processes.

BlackWood Ventures reaffirms its commitment to advancing its investment acumen and contributing to the broader discourse on venture capital. Through analysis, informed dialogue, and strategic application, this white paper aims to equip investors and entrepreneurs with the insights necessary to navigate the cognitive complexities of the VC landscape.

Information & Explanation Transmission Bias



Information Transmission Bias, involves the distortion of information as it moves from one party to another, calling into question the accuracy of the knowledge used in investment decisions.

In a field where the precision of data and insights is crucial to the success of investments, it is critical to understand how information can be altered, whether intentionally or not.

Explanation bias, is characterized by the influence of narrative persuasiveness on investor judgment. It compels us to consider whether the allure of a well-articulated vision may sometimes eclipse the critical evaluation of a startup's fundamental value proposition and market potential.

This bias challenges investors to distinguish between the substance of an opportunity and the sheen of its presentation.

Information Transmission Bias in Venture Capital

Overview

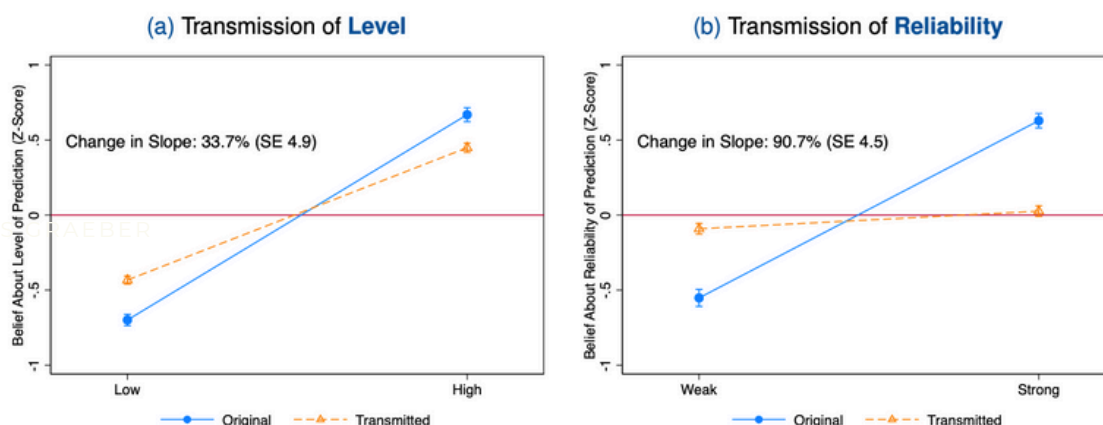
Almost all the information that we obtain and that we use to make decisions, as well as all the news and ideas we absorb come from others!

Information Transmission Bias occurs when the original message gets altered, either subtly or significantly, as it passes from one individual to another. In the venture capital (VC) ecosystem, this bias can critically impact decision-making processes, from early-stage investments to follow-on funding rounds.

The garbling of information, whether through omission, addition, or transformation, can lead to misaligned expectations, misguided decisions, and ultimately, affect the return on investment.

MAIN FINDINGS:

Listener Beliefs About Original/Transmitted Messages



GRAPH 1. GRAEBER ET AL. LOST IN TRANSMISSION, RESULTS FINDING.

Mechanics of Information Transmission Bias

Professor Graeber's research has shed light on how the process of transmission leads to information distortion.

In an experiment they study how information is distorted along two central dimensions: level and reliability. Level refers to the magnitude and direction implied by a forecast of some quantity such as prices (very high, high, no effect, low, etc.), and reliability captures how reliable (or precise, accurate) the message or forecast is.

Their conclusions were that while the level of the information is distorted to some extent, the most important and pervasive impact happens on the reliability, which is much more strongly garbled.

We suggest that this type of bias plausibly operates through two central mechanisms in the VC context:

- **Level:** refers to the magnitude of a message or forecast of a relevant quantity. In a VC environment, this could be approached as a measure of the strength of the information.
- **Reliability:** refers to the probability that the information is true. This is a measure of the credibility of the source of information, and of the certainty of the information.

Examples from VC Practices

- **Information Level Amplification:**

Amidst growing excitement for blockchain technology, a startup's minor role in blockchain is exaggerated as information circulates among investors. This magnification overshadows other vital elements of the startup's business model. Consequently, the startup's valuation becomes inflated, not reflecting its fundamental value proposition.

- **Information Reliability Simplification:**

A startup specializing in biotechnology innovation shares its detailed research and development (R&D) process with early-stage investors. As this information is relayed to additional potential investors, the complex details of the R&D are simplified into a more understandable yet less precise narrative. Important nuances and technological challenges are often reduced in complexity during this communication, whether it's between potential investors or from a VC partner to the Investment Committee.

This streamlining of information results in substantial funding, despite a misunderstanding of the potential and technological risks involved.

"A POTENTIAL REAL-WORLD EXAMPLE IS THE CASE OF NATIONAL INTELLIGENCE ESTIMATES REGARDING WEAPONS OF MASS DESTRUCTION IN IRAQ. A RAND RETROSPECTIVE FROM 2014 CONCLUDED THAT, "AS THE DRAFT [...] WENT UP THE INTELLIGENCE CHAIN OF COMMAND, THE CONCLUSIONS WERE TREATED INCREASINGLY DEFINITELY. [...] QUALIFIERS [...] WERE DROPPED IN THE EXECUTIVE SUMMARY. [...] IT OMITTED MOST OF THE RESERVATIONS AND NONCONFORMING EVIDENCE, GOMPERT ET AL (2014)."

- THOMAS GRAEBER

Data-Driven Insights

Research in the VC field suggests that startups in hyped industries or those that can craft a compelling narrative are more likely to receive funding, regardless of their underlying fundamentals.²

For instance, studies have shown that startups with strong storytelling capabilities secure funding rounds more quickly and at higher valuations, potentially indicating the influence of Information Transmission Bias in amplifying narrative over substance.



Mitigating Information Transmission Bias

- **Directly ask for the reliability of information:** Findings from research on the field tend to show that the reliability is not willingly distorted while transmitting information, it is simply omitted.
- **Documentation and Verification:** Maintain comprehensive documentation of all critical information and verify claims through independent due diligence processes.
- **Educational Initiatives:** Educate VC professionals on the nuances of Information Transmission Bias, incorporating training sessions on effective communication and critical listening.
- **Diverse Perspectives:** Include diverse perspectives in investment decision processes to challenge simplified, amplified, or assimilated narratives, ensuring a more balanced and accurate interpretation of information.

Conclusion

Information Transmission Bias presents a formidable challenge in the venture capital ecosystem, potentially leading to suboptimal investment decisions.

By understanding the mechanisms through which this bias operates and implementing strategic measures to counteract its effects, VC firms can make more informed, rational investment decisions, aligning closer with the startups' true potential and market realities.

Explanation Bias in Venture Capital

Understanding Explanation Bias

Explanation Bias refers to the cognitive distortion that occurs when the persuasiveness or comprehensiveness of an explanation influences its perceived truthfulness or validity. In the venture capital arena, this bias can dramatically impact investment decisions, with investors potentially favoring startups that present their business case more eloquently or thoroughly, irrespective of the underlying business fundamentals.

Mechanisms of Explanation Bias

- **Richness of Narrative:** Startups that can articulate their vision and technology in a rich, detailed manner often appear more convincing, leading investors to overlook potential flaws or risks.
- **Simplicity vs. Complexity:** Simple, coherent explanations are generally more appealing but may not capture the complexity of the startup's challenge or solution. Conversely, overly complex explanations might be seen as more credible due to their detail, despite not being inherently more accurate.
- **Emotional Engagement:** Explanations that evoke an emotional response or align with investors' values or beliefs can skew perception, leading to biased evaluation of the investment opportunity.

VC Examples and Implications

- **Overvalued Investments:** A tech startup presents a highly compelling, detailed narrative of its AI-based solution for healthcare, emphasizing revolutionary outcomes and broad market applicability. The richness of the narrative leads to significant investment, despite insufficient evidence of technological feasibility or market readiness.
- **Undervalued Innovations:** Conversely, a startup with a groundbreaking but complex technology for renewable energy struggles to articulate its value proposition succinctly. Investors, influenced by Explanation Bias, undervalue the startup due to its inability to provide a gripping explanation.
- **Missed Opportunities:** An investor with a deep belief in the importance of sustainable technologies is presented with a startup that has developed an innovative recycling process. The startup's passionate, value-aligned explanation of its mission and impact leads to an investment decision that overlooks critical operational and market challenges.

Strategies to Counteract Explanation Bias

Promote Rich and Nuanced Explanations

Emphasizing the importance of detailed and nuanced explanations is crucial for conveying information effectively. Rich, in-depth explanations enhance decision-making accuracy by providing a more complete context and understanding of the information shared. It is essential for communicators to offer thorough justifications and reasoning behind their beliefs and choices to ensure clarity and reduce misunderstandings.

Critical Evaluation of Explanations

It is important to adopt a critical stance towards the explanations received. While rich explanations can be more persuasive, they are not inherently more accurate. Decision-makers should be trained to critically analyze explanations, evaluating the validity of the arguments and the evidence supporting them, rather than simply accepting them based on their persuasiveness.

Awareness of Sparse Explanations

Be wary of sparse explanations, as they may indicate incorrect or incomplete information. These explanations often do not capture the complexity or full scope of the issue, which can lead to misinformed decisions. Decision-makers should be trained to seek further clarification and additional details when presented with overly concise explanations, ensuring a more comprehensive understanding before making decisions.

Encourage Active Inquiry

Foster an environment where active inquiry is valued. Decision-makers should feel empowered to ask probing questions to uncover not just the what, but the why and how of the information being presented. This approach helps to reveal the underlying assumptions, the reliability of the sources, and the comprehensiveness of the explanation.

Leverage Diverse Perspectives

Include diverse perspectives in the evaluation process. Different viewpoints can help challenge and expand the explanations presented, reducing the risk of overlooking potential flaws or alternative interpretations. This diversity fosters a more holistic understanding and mitigates the impact of individual biases.

Structured Evaluation Frameworks

Implement structured evaluation frameworks that prioritize objective criteria and evidence over narrative appeal. These frameworks should guide decision-makers to systematically assess the merits of the information presented, focusing on substantiated facts and data.

Conclusion

Explanation Bias poses a significant challenge in the venture capital ecosystem, particularly at the early stage, influencing investment decisions through the subjective impact of startup narratives. By recognizing the mechanisms through which this bias operates and adopting strategies to mitigate its effects, VC firms can enhance their ability to discern the true value and potential of investment opportunities.



4. KALLAUGHER, K. (1989)

Conclusion

Our discussion with **Professor Thomas Graeber** focused on Information Transmission Bias and Explanation Bias, revealing cognitive distortions in venture capital. These biases emphasize the importance of clarity, accuracy, and persuasive narratives in decision-making for early-stage investments.

Information Transmission Bias involves altering information as it moves through communication channels. It raises critical questions about the accuracy and reliability of data used in investment decisions, challenging the integrity of this data from source to recipient.

Explanation Bias examines the impact of a startup's narrative persuasiveness on investor judgment. It compels venture capitalists to balance the allure of well-presented visions with critical assessments of a startup's intrinsic value and market potential. This bias demonstrates how narrative depth, simplicity versus complexity, and emotional engagement can distort perceptions, potentially leading to the overvaluation or undervaluation of investments.

Strategies from these discussions highlight the need for detailed explanations and rigorous evaluation beyond narrative appeal. They advise caution with sparse explanations, which may hide a lack of substance or inadvertently reveal truths through their brevity. These strategies aim to enhance communication within VC firms, promoting disciplined, evidence-based analysis of investment opportunities.

SOURCES:

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