Boredom and Flow: An Opportunity Cost Theory of Motivational Attention

this is the boredom trigger

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Abstract

The process of deciding where to direct attention itself consumes attention. Consequently, people must continually weigh the marginal value of devoting attention to their current focus against the marginal value of evaluating other attentional opportunities. We model this trade-off in a dynamic choice framework in which boredom and flow take the form of hedonic signals that influence behavior, including choices about the focus of attention. The model explains a range of empirical regularities documented in research on attention, generates novel economic predictions that cannot be captured by existing theories such as rational inattention, and has significant implications for welfare analysis. We illustrate the economic effects of boredom and flow with three applications to attentional addiction, workplace design, and industrial organization.

flow = opposite of boredom - same mechanism?

Keywords: Attention, Motivation, Dual-Self, Affect

JEL Codes: D01, D83, D84, D91, J32

When k shrinks, opp. costs rises → boredom

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Mackowiak et al.

Abstract

We review the recent literature on rational inattention, identify the main theoretical mechanisms, and explain how it helps us understand a variety of phenomena across fields of economics. The theory of rational inattention assumes that agents cannot process all available information, but they can choose which exact pieces of information to attend to. Several important results in economics have been built around imperfect information. Nowadays, many more forms of information than ever before are available due to new technologies, and yet we are able to digest little of it. Which form of imperfect information we possess and act upon is thus largely determined by which information we choose to pay attention to. These choices are driven by current economic conditions and imply behavior that features numerous empirically supported departures from standard models. Combining these insights about human limitations with the optimizing approach of neoclassical economics yields a new, generally applicable model.

JEL Classification: D8.

Keywords: rational inattention, information choice.

Notes:
- Mutual information = processing cost?
- Shannon capacity - fixed K - but is it really fixed?
- links to the boredom paper - this is the constraint side

The Economics of Attention

George Loewenstein and Zachary Wojtowicz*

attention capture = externality

Attention is an important resource in the modern economy and plays an increasingly prominent role in economic analysis. We summarize research on attention from both psychology and economics with a particular emphasis on its capacity to explain documented violations of classical economic theory. We also identify promising new directions for research, including attention-based utility, the recent proliferation of attentional externalities introduced by digital technology, the potential impact of artificial intelligence on the economics of attention, and the significant role that boredom, curiosity, and other motivational states play in determining how people allocate attention.

JEL: D83, D90, D91, I00

Keywords: Attention, motivation, behavioral bias, information, learning, education, artificial intelligence, machine learning, future of work

1. Introduction

At the dawn of an industrial revolution in which millions would eventually flock from farm to factory, Adam Smith and his contemporaries established economic science around the idea that physical factors of production—the classical trinity of "land, labor, and capital"—were the primary resources driving the wealth of nations. Over the ensuing centuries, generations of economists have elaborated on this perspective by emphasizing additional intangible factors—most notably technology, human capital, and information—that have come to play an increasingly prominent role in successive eras of economic development. In this review, we join a growing chorus of contemporary economists who argue that the mental resource of attention should be added to the list of core productive factors studied by the discipline.[1] The reasons are threefold:

1. Attention constrains both production and consumption in many aspects of the modern economy.
2. Accounting for attention resolves many outstanding puzzles in economic theory, especially those iden-

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[1] See Festré and Garrouste (2015), for a historical review of attention in economics, and Gabaix (2019), Caplin (2016), and Maćkowiak, Matějka and Wiederholt (2023) for recent surveys.

Notes: - like a lot on deep work (Newport)
→ ~~it~~ ties all 3 papers together

Boredom Logs

Session 1 (Feb 1, ~10:00): Urge for phone peaked around min 5–7, then faded.
Around min 9 the Shannon constraint suddenly "clicked" – connection to email skimming.
Felt restless then calm.

Session 2 (Feb 3, 22:00): Milder urge, peaked ~4 min. Spent most of the time mentally debating whether boredom = exhaustion or signal.
Block felt shorter than 15 min.

Session 3 (Feb 5 ~ 20:00): Almost no phone urge. Around min 8, thought of "attention capture as a tax" analogy. Felt focused, almost pleasant.