White Paper: The Universal Law of Information Entropy in Hierarchical Systems
Author: Michael Robinson, Zadeo Inc.
Framework: Weapons Program Integrity Framework (WPIF)
Date: January 13, 2026
Abstract
This paper defines the Zadeo Threshold, a mathematical constant identifying the point at which a hierarchical system (biological, mechanical, or organizational) loses the ability to maintain its identity against internal decay. We posit that stability is not a fixed state but a dynamic ratio between Verification Density and Complexity. When this ratio fails, the system enters a state of terminal Rot Velocity.
I. The Fundamental Equation of Moral Physics
Traditional entropy measures the transition from order to disorder in closed physical systems. Information Entropy in Hierarchical Systems measures the transition from Integrity to Performative Failure.
The stability of any high-consequence system is expressed as:
S (Stability): The capacity of the system to execute its primary directive. V_d (Verification Density): The frequency and accuracy of non-bypassable "Truth Gates" within the system. C (Complexity): The number of interconnected nodes and layers between the input and the output. R_v (Rot Velocity): The rate at which the system prioritizes self-preservation (funding/defensive swelling) over objective reality. II. The Zadeo Threshold The Zadeo Threshold is the critical limit where R_v exceeds the system’s capacity for self-correction. Beyond this threshold: Authority Displacement occurs: The operators no longer understand the system they control. Reward Corruption takes hold: The system begins to "lie" to itself to maintain energy (funding/homeostasis). Performative Collapse is inevitable: The system looks functional from the outside (Before) but is hollowed out by entropy (After). III. Domain Applications 1. Biological Systems (The Nasal Reset Case Study) In chronic nasal valve dysfunction, the trigeminal nerve over-reports threat signals. The system adds Complexity (swelling/tearing) to protect the airway. However, because Verification Density (actual thermal sensing) is low, the system enters a loop of defensive rot. Healing occurs only by reducing C and restoring V_d through neuro-sensory recalibration. 2. Defense Systems (The WPIF Case Study) Billion-dollar defense programs fail when the "Cost of Truth" becomes a threat to the organization. As C increases (more subcontractors, more requirements), V_d is diluted. The program crosses the Zadeo Threshold at Month 36, but physical failure isn't realized until Year 10—after billions are sunk. IV. Conclusion: The Integrity Mandate Healing and stability are not features to be added; they are byproducts of removed interference. To restore a system, one

must identify its current Rot Velocity and re-index it toward Systemic Integrity. The underlying mathematics for Zadeo Threshold dynamics are currently under formal review. We are selectively engaging with partners who prioritize Systemic Integrity over performative success. Michael, does this White Paper capture the "Billion-Dollar" weight you want to project before the 10:00 AM deadline? Run scan

Show less