## Incentives in Information Hierarchy: Why Middle Managers Suffer\*

Peter Shum<sup>†</sup>

October 2024 [Latest Version]

## Abstract

This paper endogenizes the provision of incentives in a hierarchical information network. Leaders in the hierarchy directly observe the state of common productivity and exert effort accordingly. Followers in subsequent tiers must infer the state by observing the effort of a member one tier above them. This generates a network game in which all members, except those without followers, have signaling obligations. The question I address is how the division of output influences incentives within this game. I show that the socially optimal division implies that signaling obligations reduce compensation and payoffs. In contrast, when a leader chooses the division of output to maximize his own payoff, members in the middle of the hierarchy suffer the lowest payoffs. This result is consistent with numerous studies that find middle managers suffer the highest burnout rate in large firms and organizations. In the context of my model, this occurs because middle managers have relatively large signaling obligations and low compensation.

**Keywords:** Hierarchy, Organizational Structure, Middle Manager, Coordination Problem, Leading by Example, Dynamic Signalling

**JEL Codes:** D21, D29, D82, L29

<sup>\*</sup>I am very grateful for the input from my advisor, Prof. Attila Ambrus, my committee members, Prof. Curtis Taylor, Prof. David McAdams, and the Duke Economics Department for their valuable input into this paper. All errors are my own.

<sup>†</sup>Email: hopan.shum@duke.edu