THE BODY IS THE BOUNDARY: EXTENDING HUANG AND RUST'S AI INTELLIGENCE HIERARCHY WITH OBSERVED GENERATIVE AI USAGE

MARKUS RACH
CANADIAN UNIVERSITY DUBAI

Comunicação:
O XIV SINGEP foi realizado em conjunto com a 14th Conferência Internacional do CIK (CYRUS Institute of Knowledge) e com a SPARK (Society for Promoting Academic Research and Knowledge), em formato híbrido, com sede presencial na UNINOVE - Universidade Nove de Julho, no Brasil.

Agradecimento à orgão de fomento:
no funding received.

THE BODY IS THE BOUNDARY: EXTENDING HUANG AND RUST'S AI INTELLIGENCE HIERARCHY WITH OBSERVED GENERATIVE AI USAGE

Study purpose
To test Huang and Rust's AI intelligence hierarchy against observed generative AI usage: whether task adoption and the split between automation and augmentation follow the predicted mechanical-to-empathetic order, and how usage moves over time.

Relevance / originality
This is the first test of the framework against observed generative AI behavior rather than predicted exposure. It speaks to mass-unemployment forecasts built on exposure indices and proposes an intelligence-embodiment matrix that extends the framework toward physical AI.

Methodology / approach
2,712 O*NET task statements were classified into the four intelligences by a large language model, blind-validated by two human coders, and linked to five waves of the Anthropic Economic Index. Two-part fractional models with cluster-robust and bootstrap inference.

Main results
Adoption ignores the hierarchy: physical demands predict non-use, while analytical, intuitive, and empathetic tasks are adopted alike. Engagement forms two tiers: users delegate rule-based work and collaborate on judgment-based work. Empathetic usage grows fastest, driven mainly by consumers.

Theoretical / methodological contributions
Two amendments: embodiment governs adoption, and a rule-versus-judgment boundary consistent with output verifiability shapes engagement. The intelligence-embodiment matrix restores the mechanical-first prediction as a testable claim about physical AI. A transparent LLM-coding workflow with blind human validation.

Social / management contributions
Observed adoption is selective, collaborative, and partly personal, which tempers mass-unemployment forecasts. The matrix shows which tasks face delegation pressure now, which require workflow redesign, and which await physical AI.

Keywords: Artificial intelligence, intelligence hierarchy, task-based automation, generative AI usage, embodiment