NEURIPS 2026 / POSITION PAPER

AI-Agent Pricing Should Become More Outcome-Dependent:

An Economic Perspective

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MOTIVATION

Equal token bills can hide rework costs

TWO SUPPORT TICKETS WITH THE SAME TOKEN USAGE

The customer's problem is solved.

Problem unsolved and needs human follow-up

Who bears the cost of failure?

Are there better pricing contract for AI agent?

AI-agent pricing should depend more on verifiable outcomes

EFFORT AND OUTCOMES

$$\pi = \mu(e_1, e_2) + \varepsilon$$

- e_1 Observable usage
- e_2 Hidden quality effort
- ε Random variation in outcomes

OUTCOMES AND PAYMENT

$$w(\pi) = \alpha + \beta\pi$$

- α Fixed payment term
- β Outcome sensitivity

Principal–agent models compare provider effort and user welfare.

Outcome-dependent pay can share risk

FIRST-BEST OUTCOME SENSITIVITY

$$\beta^{\mathrm{FB}} = \frac{r_p}{r_a + r_p}$$

r_p User risk aversion
r_a Provider risk aversion

Observable, contractible effort

The optimal β rises as the user becomes more risk-averse relative to the provider.

A fee per verified resolution shifts some risk to the provider.

RESULT 2 / HIDDEN EFFORT

Hybrid pricing rewards hidden effort

Contract	What the contract can use
Token-only	Observable usage
Outcome-only	Realized outcome
Hybrid	**Observable usage and realized outcome**

PRINCIPAL WELFARE IN THE BENCHMARK

Hybrid $\geq$ Outcome-only $\geq$ Token-only

Specify usage directly and reward verified success.

Noise and gaming limit outcome pay

MEASURED OUTCOME

$$z = y + \nu + x_a - x_p$$

- y True outcome
- ν Measurement noise
- x_a Provider inflates the score
- x_p User deflates the score

PAYMENT RULE

$$w(z) = \alpha + \beta z$$

Example

Early ticket closure can inflate the score.

More noise or cheaper manipulation lowers the optimal β.

Define success and make the billing measure auditable.

PRACTICAL IMPLICATION

Verifiable outcomes make hybrid pricing practical

Meter usage. Tie part of the fee to outcomes both sides can verify.

If you want to learn more, find me at

Atlanta Poster Session 2

Hall C1 ▪ **Wed 16:30 EST**