Adoption Threshold Analysis: Katz-Shapiro Fulfilled Expectations
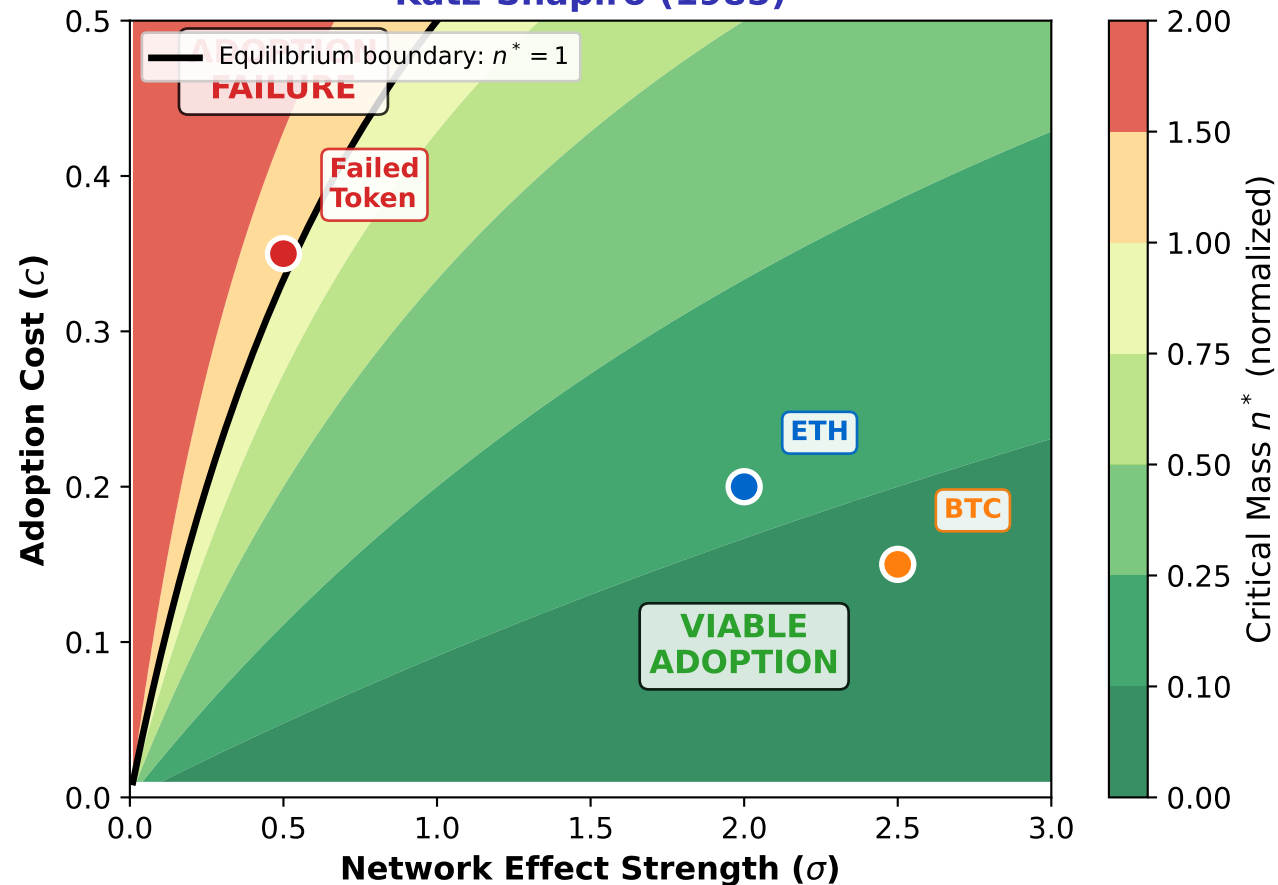$b(n) = \frac{\sigma n}{1 + \sigma n}$, equilibrium $b(n^e) = c$ -- Katz & Shapiro (1985)

(a) Adoption Phase Diagram
Katz-Shapiro (1985)

Equilibrium boundary: $n^* = 1$

ADOPTION FAILURE

Failed Token

ETH

BTC

VIABLE ADOPTION

Critical Mass n^* (normalized)

Network Effect Strength (σ)

Adoption Cost (c)

(b) Cross-Section at $\sigma = 1.5$:
Benefit vs Cost

$n^* = 0.55$

$n^* = 0.29$

$n^* = 0.12$

Benefit: $b(n)$ at $\sigma = 1.5$
Low cost ($c = 0.15$)
Medium cost ($c = 0.30$)
High cost ($c = 0.45$)

Below critical mass: adoption collapses

Network Size n (normalized)

Benefit $b(n)$ / Cost c