

Activity 7A: Platform Diagnosis – SOLUTIONS

Digital Finance Intensive Course

Prof. Dr. Joerg Osterrieder

INSTRUCTOR COPY – do not distribute to students

Grading note. There is no single correct answer for several dimensions (especially disruption classification and moat identification). Accept well-reasoned arguments that apply the correct framework, even if the classification differs from the model answer. The key is whether the student names the correct economic mechanism.

Group A: Stripe

| Diagnostic question | Model answer |
|----------------------------------|---|
| P1: TC eliminated | <i>Enforcement costs</i> of payment acceptance. Before Stripe, a merchant needed a merchant account (2-6 weeks, \$500 setup), a payment gateway, and a separate fraud tool. Stripe collapsed all three into one API call with 7-line integration. Enforcement TC (chargebacks, fraud) reduced by Stripe's ML fraud layer. |
| P2: Information asymmetry | Adverse selection in merchant quality. Stripe's ML model distinguishes fraudulent from legitimate merchants better than banks (Stripe sees 1%+ of global GDP in transaction flow). Banks were over-screening legitimate startups. Stripe resolved the asymmetry by building a better signal: actual transaction behaviour. |
| P3: Two-sided pricing | Merchants pay (2.9% + \$0.30); cardholders pay nothing. Rochet-Tirole: consumers have high elasticity (many payment methods), so subsidising them is optimal. Merchants gain large cross-group benefit (access to all card-holding consumers). Multi-homing by merchants is common (Stripe + Braintree), keeping pricing competitive. |
| P4: Disruption type | New-market disruption. Stripe targeted non-consumers: software developers and startups who previously could not accept cards (too complex, too slow). Christensen: the non-consumer segment had no incumbent serving them. Stripe then moved up-market to enterprises (Stripe Terminal, Stripe Treasury). |
| Durable moat | <i>Integration moat</i> : Stripe is embedded in 1m+ merchant checkouts. Switching requires re-engineering the entire payments stack. Also API lock-in: developers build Stripe-specific workflows. |
| Mechanism risk | PFOF-equivalent: Stripe routes card transactions to networks (Visa/MC) that also compete with Stripe products. Regulatory risk: EU interchange caps (IFR) squeeze margins. Disruption risk: if open banking/PSD2 enables direct bank-to-bank payments, card rails become less relevant. |

Group B: Ant Group / Alipay

| Diagnostic question | Model answer |
|----------------------------------|--|
| P1: TC eliminated | <i>Enforcement costs</i> of e-commerce (escrow, 2004) + <i>access costs</i> of financial services (branch visits replaced by mobile). The QR code eliminated merchant terminal costs entirely: no hardware, no certification, just a printed code. |
| P2: Information asymmetry | Three asymmetries resolved simultaneously: (a) Escrow: seller-buyer trust (adverse selection in product quality). (b) Sesame Credit: bank-borrower adverse selection resolved via 10+ years of transaction data. (c) Yu'e Bao: idle balance predictability reduces reserve requirements vs. traditional banks. |
| P3: Two-sided pricing | Classic two-sided: merchants subsidised (free QR, no terminal fee) to build consumer network. Consumers acquired free; monetised via Yu'e Bao yield, Huabei credit, insurance products. Once tipped, Ant raised Huabei rates: switching costs (Sesame score) made consumers inelastic. |
| P4: Disruption type | New-market disruption initially (served unbanked/underserved in e-commerce), then moved to low-end disruption of traditional banking (Huabei vs. bank credit cards). Christensen: non-consumers were Taobao buyers who had no payment mechanism at all. |
| Durable moat | <i>Data moat</i> (Sesame Credit) + <i>network moat</i> (1bn users). The data moat is uniquely durable because a credit score built over 15 years cannot be replicated by sharing data for 1 year. |
| Mechanism risk | The same data moat that enabled competitive pricing enabled market power abuse. PBOC intervened (2020-2021): Sesame data mandated for sharing with national credit bureau; Ant restructured as financial holding company. |

Groups C, D, E: Brief Model Answers

Group C: Robinhood – *P1*: Eliminated TC of brokerage account setup (no minimum balance, instant sign-up). *P2*: PFOF creates hidden information asymmetry (users don't observe spread widening). *P3*: Users pay nothing, market makers pay PFOF; Rochet-Tirole: users have high elasticity (any broker), market

makers pay for retail order quality. *P4*: New-market disruption – non-consumers were millennials not investing at all. *Moat*: Weak switching costs; main moat is brand/habit. *Risk*: PFOF regulatory scrutiny (SEC, MiFID II); gamification criticism.

Group D: Uniswap – *P1*: Eliminated enforcement TC of trust in a counterparty (AMM replaces market maker entirely). *P2*: Smart contract transparency eliminates information asymmetry about execution – anyone can verify the $x \cdot y = k$ rule. *P3*: Traders pay 0.3% fee to LPs; LPs bear impermanent loss risk. Both sides need each other: Rochet-Tirole applies. *P4*: New-market disruption – serves permissionless users no CeFi serves. *Moat*: Composability and liquidity network effects. *Risk*: MEV extraction, impermanent loss, regulatory uncertainty.

Group E: Nubank – *P1*: Eliminated access TC to credit in Brazil (no branch required, digital-only). *P2*: Better-than-bank credit scoring using alternative data (phone usage, social graph). *P3*: No-fee credit card subsidises consumers; cross-sell to NuInvest, loans. *P4*: Low-end disruption – targeted over-served (unbanked Brazilians banks ignored) with a simpler, fee-free product. *Moat*: Network effects from family/friend referrals (NPS-driven growth). *Risk*: Credit cycle risk in Brazil; concentrated geographic exposure.

Strongest combined moat across four pillars: Ant Group (data moat + network moat + switching cost moat + disruption into multiple markets simultaneously). Runner-up: Stripe (integration moat + API lock-in). Weakest: Robinhood (low switching costs, commodity-grade product, regulatory risk on main revenue line).