

Lesson 1.1 Quiz: Anatomy of a Payment

Module 1: The Cost Problem

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Digital Finance — BSc Course (v2026.05)

Q1: Four-Party Model Roles

In the four-party card payment model, which entity **issues the card** to the consumer?

- A The acquiring bank
- B The issuing bank
- C The payment processor
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Q2: Settlement Definition

What is the key difference between **authorization** and **settlement** in a card payment?

- A Authorization is batch; settlement is real-time
- B Authorization is optional; settlement is mandatory
- C Authorization moves money; settlement verifies the card
- D Authorization verifies and approves; settlement transfers funds

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Q3: Interchange Recipient

Who **receives** the interchange fee in a standard four-party card transaction?

- A The payment processor
- B The issuing bank
- C The card network
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Q4: Netting Purpose

What is the primary purpose of **netting** in the settlement process?

- A To encrypt card data during transmission
- B To speed up authorization responses
- C To calculate interchange fees
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A merchant pays the following fees on each transaction: interchange 1.65%, network assessment 0.13%, processor 0.10%, acquirer markup 0.25%, gateway 0.07%. What is the total Merchant Discount Rate (MDR)?

- A 2.20%
- B 2.00%
- C 2.50%
- D 1.65%

Q5: MDR Calculation – Basic

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Q6: Dollar Fee on a Transaction

Using an MDR of 2.60%, how much does the merchant pay in fees on a \$200 sale?

- A \$26.00
- B \$13.00
- C \$5.20
- D \$2.60

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Q7: Effective MDR with Fixed Fees

A debit transaction has fees of 0.50% + \$0.15 fixed. On a \$3.00 purchase, what is the **effective** MDR?

- A 5.50%
- B 0.50%
- C 3.50%
- D 10.50%

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Q8: Interchange Share of MDR

If the total MDR is 2.40% and interchange is 1.70%, what percentage of the MDR does interchange represent?

- A About 60%
- B About 85%
- C About 71%
- D About 50%

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Q9: Settlement Timing

A merchant batches credit card transactions at the end of business on Monday. Under the legacy T+2 settlement regime (US equities moved to T+1 in May 2024 via SEC Rule 15c6-1(b)), when will the funds arrive in the merchant's account?

- A Monday evening
- B Friday (T+4 business days)
- C Wednesday (T+2 business days, skipping the trade day)
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Q10: Working Capital Impact

A merchant processes \$8,000 per day in credit card sales with T+2 settlement. How much working capital is “locked in the pipeline” at any given time?

- A \$40,000
- B \$24,000
- C \$16,000
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Q11: Netting Calculation

Bank X owes Bank Y \$500,000 and Bank Y owes Bank X \$350,000. After bilateral netting, what is the single transfer required?

- A \$350,000 (Y to X)
- B \$500,000 (X to Y)
- C \$150,000 (X to Y)
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Q12: Cross-Border Fee Estimate

A tourist makes a €100 purchase abroad. The domestic MDR is 2.2%, and the cross-border surcharges (correspondent banks + FX) add 2.5%. What is the total cost to the merchant?

- A €2.50
- B €4.70
- C €7.20
- D €2.20

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Q13: Small-Ticket Analysis

Two merchants both pay $0.30\% + \$0.10$ per transaction. Merchant A averages \$5 tickets; Merchant B averages \$50 tickets. Which statement is most accurate?

- A Merchant A pays a higher effective MDR due to the fixed fee
- B Merchant B pays a higher effective MDR due to the percentage fee
- C Both pay the same effective MDR
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Q14: Interchange Cap Impact

If regulators cap interchange at 0.20% (down from 1.50%), which party in the value chain loses the most revenue?

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- B The card network
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Q15: Authorization vs. Settlement Failure

A cardholder receives an “Approved” authorisation response at the POS (terminal prints a valid receipt), but three business days later the merchant’s account has still not been credited. Acquirer reconciliation files show the transaction missing from the day’s batch. At which phase did the failure most likely occur?

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Q16: Disintermediation Target

A FinTech startup builds a system where consumers pay merchants directly from their bank accounts, bypassing card networks entirely. Which fees does this **eliminate**?

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- B Interchange and network assessment fees
- C All fees — bank-to-bank transfers are free
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Q17: Settlement Speed Trade-off

Real-time payment systems settle instantly but lack chargeback protection. Why might a consumer **prefer** a slower card payment?

- Ⓐ Real-time payments are not available internationally
- Ⓑ Card authorization is faster than real-time payment authorization
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Q18: Cross-Border Complexity

Why do cross-border card payments cost significantly more than domestic ones?

- A Additional intermediaries (correspondent banks, FX providers) add fees
- B Cross-border transactions bypass the payment processor
- C International merchants pay lower acquirer markups
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Q19: Interchange Cap Policy Evaluation

A regulator argues that capping interchange at 0.20% will lower consumer prices. A bank argues it will reduce card rewards and increase annual fees. Which stakeholder's argument is **most supported** by the payment value chain analysis?

- A The bank — issuers will cut rewards to compensate
- B Neither — interchange caps have no effect on prices or rewards
- C The regulator — lower MDR directly reduces prices
- D Both have valid points — lower interchange reduces MDR but also reduces issuer revenue for rewards

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Q20: Payment Method Recommendation

A small bakery (average ticket: \$4, daily volume: \$800) asks you which payment acceptance strategy minimizes total cost. Based on the fee structures discussed, which recommendation is **most defensible**?

- Ⓐ Accept only credit cards for maximum consumer convenience
- Ⓑ Use a real-time transfer system (low/no per-transaction fixed fee) for small tickets, accept cards for larger purchases
- Ⓒ Accept only cash to avoid all electronic fees
- Ⓓ Accept only debit cards, which have the lowest interchange

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