Quiz: Lesson 8.4 – The Future of Finance — Synthesis and Scenarios

Module 8: The Future Problem

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Question 1 (Understand)

In Everett Rogers's diffusion of innovations model, which adopter category represents the largest single group?

A. Innovators (2.5%)
B. Early Adopters (13.5%)
C. **Early Majority and Late Majority (each 34%)**
D. Laggards (16%)

Question 2 (Understand)

In the Gartner hype cycle, what happens during the "Trough of Disillusionment"?

A. A technology is first introduced and generates media excitement
B. **Early failures and unmet expectations cause interest and investment to decline sharply**
C. Companies begin to find practical, scalable use cases
D. The technology reaches mainstream adoption with well-understood benefits

Question 3 (Understand)

According to Carlota Perez's framework, in which period does lasting infrastructure get built and broad adoption occur?

A. The Innovation Trigger period
B. The Installation period (speculation and bubbles)
C. **The Deployment period (production capital builds real infrastructure)**
D. The Peak of Inflated Expectations

Question 4 (Understand)

What is embedded finance?

A. A blockchain-based payment system embedded in smart contracts
B. A compliance framework embedded into banking regulations
C. **Financial products (payments, lending, insurance) integrated directly into non-financial platforms and apps**
D. A machine learning model embedded in a trading algorithm

Question 5 (Understand)

Which of the following best describes "programmable money"?

A. Digital currency that can only be used for online purchases
B. **Digital currency that carries executable logic, such as spending conditions, expiry dates, or automatic transfers**
C. A programming language designed for financial calculations
D. Cryptocurrency that is programmed to increase in value

Question 6 (Apply)

In the scenario planning matrix used in this lesson, which two axes define the four scenarios?

A. Profitability (high vs. low) and Market size (large vs. small)
B. **Regulation (permissive vs. restrictive) and Technology adoption speed (rapid vs. gradual)**
C. Risk appetite (aggressive vs. conservative) and Capital availability (abundant vs. scarce)
D. Globalization (open vs. closed) and Demographics (young vs. aging)

Question 7 (Apply)

A world where technology advances rapidly but regulation is highly restrictive — resulting in strong CBDCs, tightly licensed stablecoins, and well-capitalized incumbent banks thriving — corresponds to which scenario?

A. FinTech Supernova
B. **Regulated Renaissance**
C. Slow Burn
D. Digital Fortress

Question 8 (Apply)

A technology that experienced massive media coverage and venture funding in 2023–2024 but is now facing questions about ROI, hallucination risks, and regulatory scrutiny is most likely at which hype cycle stage?

A. Innovation Trigger
B. **Peak of Inflated Expectations (moving toward Trough)**
C. Slope of Enlightenment
D. Plateau of Productivity

Question 9 (Apply)

An AI-native financial institution wants to fully automate loan decisions with no human involvement (Level 5 autonomy). Which course module identifies the primary obstacle?

A. Module 1 (Cost) — automated lending is too expensive
B. Module 4 (Risk) — risk models cannot handle loans
C. Module 6 (Infrastructure) — APIs are not fast enough
D. **Module 7 (Compliance) — regulators require human accountability for financial decisions**

Question 10 (Apply)

A ride-sharing app integrates instant driver payments, passenger insurance, and vehicle financing directly into its platform. This is an example of:

A. Autonomous finance
B. **Embedded finance**
C. Decentralized finance (DeFi)
D. RegTech

Question 11 (Analyze)

The convergence example "AI + Blockchain + Compliance" describes a system where ML detects suspicious transactions, smart contracts auto-freeze wallets, and RegTech reports to regulators. What is the most significant unresolved challenge of this convergence?

A. The technology does not exist yet
B. Smart contracts cannot interact with ML models
C. **Accountability: if the ML model incorrectly freezes a legitimate user's wallet, who is liable — the model developer, the smart contract deployer, or the compliance officer?**
D. Regulators will never accept automated reporting

Question 12 (Analyze)

Open banking APIs (Module 6) enable aggregation of financial data, which ML models (Module 5) use to build alternative credit scores for the underbanked (Module 2). What is the primary tension in this convergence?

A. APIs are too slow for real-time credit decisions
B. ML models always discriminate against minorities
C. **Aggregating more data improves credit accuracy but increases privacy risk and potential for algorithmic bias**
D. Alternative credit scores are illegal in most jurisdictions

Question 13 (Analyze)

The ICO bubble of 2017, the FinTech SPAC mania of 2021, and the AI investment surge of 2023–2024 can all be interpreted through Carlota Perez's framework as:

A. Evidence that these technologies have no real value
B. Signs that the deployment period has begun
C. **Characteristic events of the installation period, where financial capital floods into new technologies before their productive potential is fully understood**
D. Proof that regulation is too weak

Question 14 (Analyze)

Both the "FinTech Supernova" and "Slow Burn" scenarios assume permissive regulation. What is the key difference in outcomes between them?

A. FinTech Supernova has higher costs for consumers
B. Slow Burn has more innovation
C. **The speed of technology adoption: Supernova sees rapid AI/blockchain disruption while Slow Burn sees incremental improvements without displacement of incumbents**
D. There is no meaningful difference — both lead to the same outcome eventually

Question 15 (Analyze)

A DeFi lending protocol automatically liquidates collateral when loan-to-value ratios exceed a threshold, with no human intervention. A traditional bank uses AI to recommend lending decisions but requires a human officer to approve. How do these compare on the autonomy scale?

A. Both are at Level 3 (conditional autonomy)
B. The bank is more autonomous because it uses more sophisticated AI
C. **The DeFi protocol operates at Level 4–5 (high/full autonomy) while the bank operates at Level 1 (assisted), illustrating the autonomy gap between DeFi and traditional finance**
D. Neither qualifies as autonomous because both follow pre-set rules

Question 16 (Analyze)

The convergence of DeFi (Module 3), real-time risk pricing (Module 4), and on-chain settlement (Module 6) could enable T+0 (instant) settlement for derivatives. What systemic risk does this *introduce* that current T+2 settlement avoids?

A. Higher counterparty risk
B. Slower regulatory reporting
C. **Cascading liquidations: instant settlement means margin calls trigger immediately, potentially causing rapid, self-reinforcing sell-offs across interconnected protocols**
D. Increased settlement costs

Question 17 (Evaluate)

A government proposes issuing a CBDC with programmable restrictions: stimulus payments that expire after 90 days and cannot be used for gambling, alcohol, or luxury goods. Evaluate this proposal:

A. This is clearly beneficial — it ensures stimulus money reaches the real economy
B. This is technically impossible with current blockchain technology
C. **While economically rational, it raises serious concerns about government surveillance and control over personal spending, potentially violating financial privacy and individual autonomy**
D. This would have no impact because consumers would simply convert the CBDC to cash

Question 18 (Evaluate)

The lesson argues that "bilingual" professionals — those who combine technical and financial domain skills — will be most in demand. What is the strongest counter-argument?

A. Generalists are always less productive than specialists
B. **As AI automates routine coding and financial analysis, the premium may shift to deep domain expertise (regulation, client relationships, creative strategy) that AI cannot easily replicate**
C. Technical and financial skills cannot be combined in a single curriculum
D. The financial industry prefers to hire specialists and form cross-functional teams

Question 19 (Evaluate)

Which scenario is *most dangerous* from a systemic risk perspective, and why?

A. Regulated Renaissance — regulation stifles innovation
B. Slow Burn — lack of progress maintains existing inefficiencies
C. **FinTech Supernova — rapid innovation with permissive regulation creates complexity that no one fully understands, echoing pre-2008 conditions with exotic derivatives**
D. Digital Fortress — over-regulation creates parallel unregulated systems

Question 20 (Evaluate)

Looking across all eight modules of this course, what is the single most important lesson about the future of digital finance?

A. Technology will eventually replace all human involvement in finance
B. Blockchain is the most important technology for the future of finance
C. Regulation will prevent meaningful innovation in financial services
D. **The future is shaped by the convergence and tension between technology, regulation, and human needs — no single force determines the outcome, and the best solutions balance all three**

Answer Key

1. (C) – Early/Late Majority (34% each)
2. (B) – Failures cause interest to decline
3. (C) – Deployment period
4. (C) – Finance in non-financial platforms
5. (B) – Currency with executable logic
6. (B) – Regulation + tech adoption speed
7. (B) – Regulated Renaissance
8. (B) – Peak of Inflated Expectations
9. (D) – Module 7: human accountability
10. (B) – Embedded finance
11. (C) – Accountability for ML errors
12. (C) – Privacy vs. accuracy tension
13. (C) – Installation period speculation
14. (C) – Technology adoption speed
15. (C) – DeFi L4–5 vs. bank L1
16. (C) – Cascading liquidations
17. (C) – Surveillance and autonomy
18. (B) – Deep domain ¿ bilingual
19. (C) – Supernova systemic risk
20. (D) – Tech + regulation + human needs