=== exam3_student1.txt ===

MSc Business Analytics – Exam 3

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Instructions:

Answer ALL questions. Use clear analytical reasoning, cite frameworks where relevant (e.g., network-effects taxonomy, AI adoption S-curve). Time allowed: 120 min.

Question 21:

Answer:

Most firms operate within localized ecosystems, adapting their offerings to regional preferences and constraints. Local competition shapes pricing, distribution, and marketing strategies in ways that global analysis may overlook. Even platforms with network effects must tailor their value propositions (e.g., payment methods, language) to local norms to unlock adoption. Recognizing local competition ensures strategic alignment with on-the-ground realities.

Question 22:

Answer:

In non-digital domains, physical infrastructure and human labor remain central, limiting scalability and instantaneous interactions. Unlike software platforms, analog industries must contend with geographic constraints, supply chains, and manual processes. This distinction highlights why digital innovations often outpace traditional sectors: they bypass many physical bottlenecks. Understanding the analog-digital divide guides investment in appropriate transformation roadmaps.

Question 23:

Answer:

When decision authority remains with humans, technologies serve as augmentation tools rather than full automation. Marginal costs decline as information systems streamline data collection and analysis, but final judgments still require expert oversight. For example, diagnostic software reduces the cost of analysis, but physicians retain responsibility for treatment decisions. Thus, human-in-the-loop models balance cost efficiency with accountability.

Question 24:

Answer:

Traditional network effect discussions center on how each new connection—direct or indirect—enhances overall utility. Direct effects arise when additional users can interact with one another (e.g., telephony), while indirect effects occur when growth in one user segment benefits another (e.g., more apps for an OS). This foundational taxonomy informs platform design, ensuring that both sides of a multi-sided market receive adequate incentives. Appreciating both types guides feature prioritization for maximal value creation.

Question 25:

Answer:

By blending human decision-making with automation technologies, organizations cross the threshold from mere augmentation to true automation. This barrier signifies the point at which code handles entire workflows rather than just advising humans. For instance, robotic process automation moves beyond data-entry helpers to fully autonomous invoice processing. Crossing this barrier transforms cost structures and competitive dynamics fundamentally.

Question 26:

Answer:

Early internet adoption was hampered by bootstrapping problems: users needed a way to obtain and install a browser before they could browse. Requiring physical media (CDs, floppies) imposed logistical hurdles and delayed network effects. This illustrates the importance of minimizing adoption friction—today’s instant downloads and built-in apps

eliminate these barriers. Reducing such “cold start” frictions accelerates diffusion curves significantly.

Question 27:

Answer:

Our illustrative example simplifies complex realities to clarify core principles, but real-world scenarios usually involve more variables, such as regulatory, cultural, and technical uncertainties. For instance, while a textbook case might show a smooth S-curve, actual adoption can include plateaus and rebounds influenced by external shocks. Acknowledging simplifications prevents overconfidence when applying models to messy, dynamic markets.

Question 28:

Answer:

Platforms often subsidize user access through advertising revenue, while niche professional users pay subscription fees—a two-sided monetization model. By offering free basic services to a broad audience, they build scale and data assets, then monetize through targeted ads. Simultaneously, enterprise or professional tiers fund development, ensuring sustainability. Understanding these subsidy mechanics is key to designing viable platform economics.

Question 29:

Answer:

Firms that invest heavily in advanced AI models compete less on conventional metrics and more on algorithmic edge—speed, accuracy, and data depth. Their differentiator becomes the quality of predictions rather than price or distribution. For example, hedge funds with superior machine-learning pipelines attract capital despite identical market mandates. This shift underscores the emergence of “AI as moat” in contemporary competition.

Question 30:

Answer:

We refer to a “car” rather than enumerating engine parts because abstraction bundles complexity into a single, usable concept. This cognitive shorthand enables efficient communication and decision-making, as stakeholders focus on functionality rather than low-level components. Similarly, in analytics, high-level KPIs abstract numerous metrics into digestible insights. Abstraction thus bridges detail and practical application.