=== exam3_student3.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:

Local competition remains fierce because many customers value proximity, trust, and tailored service. Even global platforms must partner with local vendors or adjust UX to reflect regional habits. For example, ride-hailing apps integrate local payment wallets to penetrate smaller markets. Understanding local dynamics avoids over-generalized strategies that can fail on the ground.

Question 22:

Answer:

Operating in a non-digital space implies reliance on manual processes—inventory management, face-to-face sales, paper documentation. These analog workflows inherently slow feedback loops and limit data capture. Digital transformation initiatives often start by digitizing these analog tasks to unlock real-time analytics. Recognizing “non-digital” areas highlights where digitization yields the greatest efficiency gains.

Question 23:

Answer:

When humans retain control, technology serves as a cost-reduction enabler for marginal activities. As computing power and software improve, the incremental cost of generating

reports or running analyses falls toward zero. Yet strategic decisions—resource reallocation, market entry—still rely on expert judgment. This hybrid model ensures cost savings while preserving essential human oversight.

Question 24:

Answer:

Connectivity-based network effects arise when each additional user increases the potential interaction pool (direct) or attracts complementary products (indirect). Telephone networks exhibit direct effects—more callers equals more reachable parties—while video platforms show indirect effects through content ecosystems. Balancing feature sets to nurture both types drives sustained user engagement.

Question 25:

Answer:

Crossing the automation barrier shifts tasks from augmentation—where humans do final steps—to complete machine execution. In customer support, chatbots first triage queries (augmentation) and then fully handle routine requests (automation). This evolution drastically reduces staffing costs and accelerates service levels. Identifying this barrier informs investment timing in AI projects.

Question 26:

Answer:

Before always-on internet, obtaining a browser necessitated offline distribution—CDs, floppy disks—requiring technical literacy for installation. These barriers slowed user onboarding and delayed network effects. Modern OSs now ship with built-in browsers to eliminate this friction, catalyzing rapid digital adoption. Ease of access remains a critical factor for diffusion.

Question 27:

Answer:

Our case study offers clarity but omits nuances like political risk, cross-border regulations, and user psychology. While simplifying helps teaching, practitioners must account for complex feedback loops and ecosystem interdependencies. Failing to incorporate these factors risks overconfidence in model predictions. Striking the right balance ensures both comprehension and real-world applicability.

Question 28:

Answer:

Platforms subsidize general user access via ad revenue, enabling free usage that builds scale. Simultaneously, institutional clients or premium subscribers fund development and operations. This two-sided revenue model aligns with Metcalfe's Law—scale drives ad value—while paid tiers guarantee cash flow. Understanding subsidy mechanics is key to platform viability.

Question 29:

Answer:

Competing on AI capability means prioritizing data pipelines, model architectures, and compute infrastructure over traditional marketing budgets. Companies like OpenAI or DeepMind invest heavily in research to maintain performance leads that deter competitors. This strategic focus elevates technology from supportive function to core differentiator. AI excellence thus defines new industry benchmarks.

Question 30:

Answer:

We default to "car" or "bicycle" as conceptual shortcuts that encapsulate complex assemblies of parts, much like "bundle" abstractions in analytics. This cognitive leap streamlines design discussions and strategic choices. Similarly, high-level KPIs abstract numerous underlying metrics into a singular performance indicator. Abstraction enables clarity and focus in both engineering and analysis.