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Practice exam questions

AI bubble trouble?

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Check your answer to the question on pp. 4–5 of the magazine. This question relates to the AQA specification.

Sample answer

Investment in digital technology, such as artificial intelligence (AI), involves committing capital to new systems or products with the expectation of future returns. For companies like Nvidia and Microsoft, this has been a central strategy. Whether this is the most effective way to achieve long-term success depends on the balance between market leadership and financial sustainability.

One powerful argument for digital investment being the most effective route to success is the potential for first-mover advantage and market dominance in a rapidly growing sector. The article highlights the 'meteoric rise' of Nvidia, whose valuation exceeded US\$5 trillion due to its investment in the microchips powering AI. By positioning itself as the infrastructure provider for a technological revolution, Nvidia has achieved a market capitalisation greater than the GDP of almost any country. This suggests that heavy investment in 'pioneering' technology allows a business to define the market, creating high barriers to entry for rivals. In the long term, companies that successfully monetise these innovations, like Amazon, Google and Meta did in the 1990s, can secure sustainable revenue streams that traditional businesses cannot match. Therefore, for businesses seeking exponential growth rather than steady survival, technological investment is the most effective strategy.

However, a significant counter-argument is that such investment is inherently high risk and can threaten financial stability (solvency). The article notes that OpenAI, despite its popularity, is losing US\$42 million a day and posted a loss of US\$7.8 billion in just six months. Investing vast sums into infrastructure and research and development without immediate profitability creates a dangerous cash flow situation. If the 'AI bubble' bursts, as warned by the IMF and the Bank of England, companies heavily leveraged in this technology could face the same fate as Yahoo and MySpace. These companies failed not because they did not invest, but because they could not monetise their operations effectively. Consequently, a strategy focused purely on technological investment can be less effective than a strategy focused on financial prudence and sustainable profit margins, especially if consumer demand turns out to be lower than the hype suggests.

Furthermore, success might be better achieved through strategic partnerships rather than direct, capital-intensive investment. The article mentions that Microsoft 'has a substantial stake in OpenAI', rather than just building everything in-house. This risk-sharing approach allows a large business to benefit from technological growth while protecting its own balance sheet from the full weight of development costs. This suggests that the method of investment matters as much as the investment itself.

In conclusion, I partly agree that investment in digital technology is effective, but it is not a guarantee of long-term success on its own. It is the most effective strategy for building market value and

shareholder wealth in the short-to-medium term, as evidenced by Nvidia's stock price. However, for long-term survival, financial sustainability is more important. The 'dot-com' examples prove that technology without a profitable business model leads to failure. Therefore, the optimal strategy is not just significant investment but sustainable investment – ensuring that the huge costs of R&D, like OpenAI's US\$42 million daily burn rate, are matched by a clear path to profitability. Without this financial discipline, technological leadership is just a 'bubble' waiting to burst.

Sample examiner comment

25/25 (Level 4 – an excellent response, fully focused on the question)

Knowledge and understanding (AO1): The student demonstrates excellent understanding of investment appraisal concepts (risk/reward), financial performance (profit vs. valuation/market cap), and strategic direction.

Application (AO2): The response is heavily contextualised. It uses specific data from the text, such as Nvidia's US\$5 trillion valuation, OpenAI's US\$42 million daily loss, and the historical comparison to Yahoo/MySpace to back up every point.

Analysis (AO3): The analysis is sophisticated. The student explains *why* investment leads to success (barriers to entry/first-mover advantage) and contrasts this with *why* it fails (cash flow issues/monetisation failure). The comparison between stock market value and actual profitability is a strong analytical thread.

Evaluation (AO4): The judgment is fully justified and nuanced. The student distinguishes between 'market value' and 'survival', arguing that while tech investment drives the former, financial discipline is required for the latter. This balanced view, supported by the 'dot-com' precedent mentioned in the text, meets the criteria for the highest level.

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