Deepening AI Technical Due Diligence – An Investor's Guide

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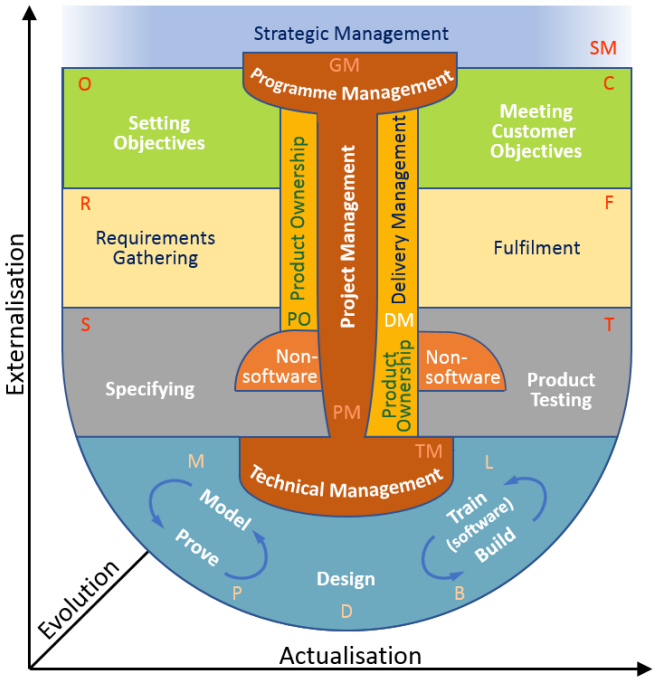
Organizations in 2020 believing they are investing in the Artificial Intelligence and Machine Learning (AI) businesses of the future have a huge array of choice. The booming AI industry is complex, uncertain and susceptible to deception. Much of the consequential risk is avoidable.

This boom is not like the Web 1.0 and 2.0 revolutions where the technology-driven changes came from new business models and new routes to market – not radically new technologies. Within burgeoning AI, there are profound new propositions and successful disruptors, but the technical capabilities are often opaque, partially solved and depicted favourably by technologists that are highly partial. The technologies that drove past booms were very different. They were based on technically solved problems experiencing exponential take-up due to network growth and novel forms of distribution. AI businesses may enjoy rapid take-up – but only where the technical problems really have been solved and the providers actually do possess the capabilities they claim.

This is not to deny that AI and quantum computing (which will further enable AI) have the potential to see super-exponential growth. The disruptive capacity of AI, even short-term, is undeniable as there is clearly a new world of intelligent automation to be discovered. And longer term, the potential for a learning machine's output to contribute to its own next generation has a truly explosive potential. But the key challenge for investors is that some AI problems are solved, some are not, and others may never be. When the .com take-up was turning to clamour in the mid-1990s the problem of data networking and globally sharing information was already 99% solved. Since then the technical additions have been optimizations, new content, new media and greater infrastructure – finding software solutions was not the main issue, whereas AI is all about discovering solutions. It will be costly to view the AI boom in the same light. Although they do have a predicament in common.

A danger with all explosions of interest is that practitioners can be at best unrealistic and at worst dishonest. For AI, this may be a bigger problem than investors realise. We are prompted to offer the following service after seeing instances where the loss of the investment is not a risk but an inevitability. With guidance, these losses can be avoided. We would go as far to say that many investors are being hood-winked. Of course, those investing in innovation are accepting of large risk, but a bet on a certain failure is a bad bet whatever the odds. Likewise, the good, high-risk/high-return software-based innovations are best brought to fruition by recognising, understanding and tackling the weaknesses of the technology or business. This underscores investors' need for best guidance from technology insiders.

Our analysis goes beyond normal due diligence - not only to verify promises and current capabilities but to look critically at the claims made for the technology and assess the tractability of the solution being offered - What can the business's product development achieve given current and future capabilities? We need to assess the health of the technical assets, the prevailing cultures and the effect of past and promised governance. Many metrics are measured and analysed over, typically, seventeen functions that are critical to AI product development. By understanding the technology and the development processes we can not only discover the feasibility, but also help predict the time of delivery and support the business in delivering on its potential.



An overview of AI product development across 17 key functions to aid direct measurement of capabilities.

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