Chapter 2
Leveraging Data Analytics for Sustainable Investment Decisions:
Evaluating NVIDIA and Microsoft

Srinidhi Vasan
https://orcid.org/0009-0009-7291-1595
Hult International Business School, USA

ABSTRACT

Leveraging data-driven decision-making in sustainable management systems is crucial for refining stock market investment strategies. This research examines the use of data analytics to assess NVIDIA and Microsoft, focusing on their historical performance. We employ the Discounted Cash Flow (DCF) model for intrinsic valuation centered on projected cash inflows and the Relative Valuation model to compare each stock to its industry peers. Additionally, scenario-based analysis is used to evaluate various market conditions and potential future developments. Our findings indicate that integrating these analytical models with scenario analysis enhances the precision of stock valuations and supports more informed investment decisions. This methodology demonstrates how financial analysts and investors can utilize advanced tools to navigate market complexities. The study concludes by determining which stock, between NVIDIA and Microsoft, appears more promising and establishes a framework for future research in financial decision-making and sustainable investment practices.

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INTRODUCTION

In today's rapidly evolving financial landscape, the integration of sustainable management practices with data-driven decision-making has become increasingly essential for optimizing investment strategies, especially within the stock market. The rising importance of sustainability, coupled with the complexities of modern financial markets, necessitates the use of advanced analytical tools to effectively interpret market trends and assess potential investment opportunities. This chapter explores the application of data analytics in investment decision-making, with a focus on two major technology giants: NVIDIA and Microsoft. By analyzing historical data and applying sophisticated valuation models, the discussion offers a thorough evaluation and comparison of these companies, emphasizing the role of data analytics in enhancing sustainable investment strategies (Clark, Feiner, & Viehs, 2015; Amel-Zadeh & Serafeim, 2018).

NVIDIA Corporation, founded in 1993, has emerged as a pioneer in artificial intelligence (AI) and graphics processing units (GPUs). The company's technological innovations have transformed multiple sectors, including professional visualization, gaming, automotive technology, and data centers (NVIDIA Corporation - Financial Info - SEC Filings, n.d.). Known for the exceptional performance of its GPUs, NVIDIA has experienced significant growth and established market dominance. With the increasing demand for AI and machine learning applications, NVIDIA remains at the forefront of technological advancement. As these technologies continue to evolve, NVIDIA's solutions are expected to play a critical role in the tech industry's future (PitchBook Profile - Nvidia, n.d.).

Microsoft Corporation, founded in 1975, stands as a global leader in software development, cloud computing, and digital transformation. Its flagship products, such as Microsoft 365 (formerly Microsoft Office) and the Windows operating system, are indispensable in both personal and business environments. Microsoft's strategic investment in cloud computing, particularly its Azure platform, has secured its position as a dominant player in the cloud services market (Microsoft Investor Relations - SEC Filings, n.d.). Additionally, key acquisitions such as LinkedIn and GitHub have expanded Microsoft's reach and capabilities, reinforcing its standing as a major force in the technology sector (PitchBook Profile - Microsoft, n.d.).

Incorporating sustainable management principles into financial analysis involves embedding environmental, social, and governance (ESG) factors into investment strategies. This approach aims to create long-term value and mitigate risks by aligning financial performance with sustainability goals (Eccles, Ioannou, & Serafeim, 2014). A data-driven approach is critical to this process, as it allows for the systematic analysis of large datasets to guide strategic investment decisions. When it comes to investment strategies, this involves applying financial models, statistical