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# Exploring the Impact of Generative AI on Financial Planning and Analysis: Assessing Efficiency, Accuracy and its Implication with EU'S CSRD Regulation

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***ABSTRACT***

*The finance and accounting sector is under constant pressure to adapt to technological advancements while maintaining accuracy and compliance with regulatory standards. With the integration of AI like ChatGPT and Microsoft Copilot, a new horizon opens up, offering possibilities for enhanced efficiency and decision-making accuracy. However, this integration presents a research problem: the need to measure and validate the accuracy of these AI tools in calculating financial ratios to analyze the financial health of a company. Given the fact that the year of 2024 is where EU companies are finally implementing EU's CSRD, there will be implications with financial planning and analysis.*

*Keywords: FP&A, Generative AI, Finance, EU's CSRD*

## INTRODUCTION

In an era marked by rapid technological evolution and constant shifts in the financial world, this undergraduate thesis aims to investigate the transformative impact of Generative AI, an advanced AI language model, over the next decade. Drawing insights from Ali and Aysan (2023), who ponder.

Generative AI's revolutionary potential in the financial industry, this research will offer valuable perspectives for the SFIB at Saxion. The study will focus on how Generative AI can revolutionize financial planning and analysis (FP&A) processes, enhancing efficiency and accuracy, and also analyse the implications with European Union's Corporate Sustainability Reporting Directive (CSRD).

The integration of Generative AI in FP&A, continuously adapting to new technologies, will be thoroughly explored. Building on the findings of Alshurafat (2023), Beerbaum (2023), and Ali & Aysan (2023), the thesis will emphasize Generative AI's role in helping finance professionals to ease their tasks, such as generating financial ratios and help them with financial recommendations.

Another critical aspect will be compliance with EU environmental laws, highlighted by Bengo et al. (2022) as increasingly central to financial and accounting practices. The thesis will examine how Generative AI can aid finance professionals in adhering to these evolving regulations, with a focus on environmental accounting.

Furthermore, the study will investigate the implication of European Union's Corporate Sustainability Reporting Directive with financial planning and analysis. This research will uncover how financial planning and analysis will be affected by EU's CSRD.

Overall, this research aims to provide a thorough and forward-looking analysis of Generative AI's potential role in shaping the future of finance and accounting. It seeks to contribute valuable insights and recommendations for professionals and organizations preparing to embrace the challenges and opportunities presented by AI in the financial sector.

In the rapidly evolving technological landscape of the finance sector, the role of a company coach at a university specializing in overseeing such technological changes presents multifaceted management challenges. As highlighted by Ali and Aysan (2023),

staying abreast of advancements in AI and blockchain technologies is crucial due to their significant potential to revolutionize financial operations.

The coach must not only track these developments but also critically evaluate their suitability for the university's finance sector, considering the specific needs, constraints, and compatibility with existing systems.

Alshurafat (2023) underscores the importance of balancing innovation with practical applicability, a crucial aspect of the coach's role in selecting appropriate technologies. Once a technology is deemed suitable, the next challenge lies in managing its adoption. This involves strategizing the implementation process, transitioning from old to new systems, and addressing potential resistance from staff. Ensuring the finance department staff are adequately trained and comfortable with new technologies like ChatGPT and Microsoft Copilot becomes paramount.

Post-implementation, the coach must engage in continuous monitoring and evaluation of the technology's performance to ensure it enhances the efficiency and accuracy of financial processes, as indicated by Bussmann et al (2020).

## THEORETICAL FRAMEWORK

### Resource-Based View

The Resource Based View Theory (RBV) considered as a conceptual framework which highly explains about how a firm able to achieve their own competitive advantage through the process of leveraging resources as well as directing the company towards long-term success and sustainability (Lubis, 2022). The main approach of this theory involves activities which understand the relationship between capabilities, resources, profitability, and competitive advantage, particularly in the comprehend mechanism for competitive advantage over time. This theory was initially proposed by Wernerfelt (1984) in his work titled "A Resource-based view of the firm," and subsequently expanded upon by Barney (1991) in "Firm Resource and Sustained Competitive Advantage," elucidating how a company's resources aid in enhancing the efficiency and effectiveness of its operations (Utami & Alamanos, 2022).

According to this theory, the company resources, which are considered as tangible assets such as technology and machinery, including the intangible assets such as patents, brand reputation, and organizational knowledge, are the primary determinants of its competitive advantage (Valaei et al., 2022). In this context, this theory highly suggest that to be able to reach those advantage, they should be able to possess valuable, inimitable, rare, and non-substitutable resources. Resources which meet those criteria tend to be more likely enabling the firm in outperform its competitors in a long-term (Lubis, 2022).

Furthermore, the theory also emphasize that resources shouldn’t only be valuable but should be difficult for the competitors to acquire and replicate. That uniqueness are able to arise from various sources, including unique organizational culture, historical condition, or complex interrelationship held between different resources (Freeman et al., 2021). It should be highlight also that the RBV strongly emphasizes the importance of leveraging and combining resources effectively to create capabilities that are greater than the sum of their parts. These capabilities, which may include skills, routines, or processes, enable the firm to perform certain activities more efficiently or effectively than its competitors (Utami & Alamanos, 2022).

Related to the context of impact exploration of generative AI on financial planning and analysis, the RBV theory also provides a lens through which to analyse the internal resources role including its abilities to achieve sustainable competitive advantage (Zhang, 2023). As the financial institutions perform an adoption on generative AI tools due to enhance the analytical processes, the theory suggest that the unique combination of

resources, such as data infrastructure, AI algorithms, and human expertise, able to contribute the improved efficiency, accuracy, and compliance with regulatory requirements (Wu, 2023). Through the effort of leveraging these resources effectively, firms are able to develop capabilities that enable them to outperform competitors in terms of financial analysis and reporting. In addition, RBV underscores the importance of continually investing in as well as upgrading the resources in order to maintain a competitive edge over time, particularly in an environment where technological advancements and regulatory changes constantly reshape the landscape of financial planning and analysis (Wood et al., 2023).

**Technology Acceptance Model (TAM)**

Technology acceptance model (TAM) refers as posits which include 2 major factors to determine whether a computer system can be accepted by their potential users, which is through perceived usefulness and perceived ease of use (Na et al., 2022). The key feature of this model is its emphasis on the perceptions of the potential user. Those factors can be supported by several external factors to proceed with such behavioral intention towards the system/technology (Mohr & Kuhl, 2021). In this case, while the creator or manager of the mentioned technology product highly believe that the product is user-friendly and useful, they will not be accepted by its potential users unless there is share of those beliefs among the users (Wang et al., 2023).

In the context of exploring the impact of generative AI on financial planning and analysis and its implications, the Technology Acceptance Model (TAM) offers a theoretical framework for understanding the adoption and usage of AI tools by financial professionals (Mantello et al., 2023). TAM suggests that individuals' intention to use a new technology is influenced by two primary factors: perceived usefulness and perceived ease of use.

Perceived usefulness refers to the degree to which a person believes that using a particular technology will enhance their job performance or productivity (Sohn & Kwon, 2020). In the case of generative AI in financial planning and analysis, professionals may perceive AI tools as useful if they believe these tools can improve the efficiency and accuracy of their analyses, aid in compliance with regulatory requirements, and facilitate decision-making processes (Wang et al., 2023). Meanwhile, perceived ease of use refers to the degree to which a person believes that using the technology will be free of effort. Financial professionals may be more inclined to adopt generative AI tools if they perceive them as intuitive, user-friendly, and compatible with their existing workflows (Lim & Zhang, 2022).

Through the application of TAM to the study of AI adoption in financial planning and analysis, researchers can identify key factors that influence professionals' attitudes and intentions toward using AI tools (Liu & Ma, 2024). This understanding can inform strategies for promoting the successful implementation and integration of generative AI within financial organizations, ultimately contributing to improved efficiency, accuracy, and compliance with regulatory requirements (Saif et al., 2024).

**Impact of Generative AI on Financial Planning and Analysis**

Generative AI has a huge potential to significantly impact financial planning and analysis by streamlining processes, improving accuracy, and uncovering insights that may not be apparent through traditional methods alone. Through advanced machine learning algorithms, generative AI models can analyze large datasets of financial information, historical trends, and market dynamics to identify patterns, predict future outcomes, and optimize decision-making (Huang et al., 2024). These models can automate repetitive tasks such as data entry, reconciliation, and forecasting, allowing financial analysts to focus on

more strategic activities. Additionally, generative AI can generate alternative scenarios and simulations to assess the potential impact of different variables and scenarios on financial performance, enabling organizations to make more informed and proactive decisions (Arnold, 2023). However, the widespread adoption of generative AI in financial planning and analysis also raises challenges related to data privacy, security, and ethical considerations, underscoring the need for robust governance frameworks and transparency measures to ensure responsible use of this technology (Beerbaum, 2023). Overall, the integration of generative AI into financial planning and analysis has the potential to revolutionize how organizations manage their finances, drive innovation, and adapt to an increasingly complex and dynamic business environment.

**European Union CSRD Regulation**

Generally, the European Union's Corporate Sustainability Reporting Directive (CSRD), introduced as part of the European Green Deal, represents a significant advancement in corporate transparency and sustainability practices. Building upon the existing Non-Financial Reporting Directive (NFRD), the CSRD aims to enhance the quality, comparability, and reliability of sustainability reporting by expanding its scope to include more companies and requiring more detailed disclosures (Primec & Belak, 2022). Under the CSRD, large and listed companies, as well as certain other entities, will be required to report on a broader range of sustainability factors, including environmental, social, and governance (ESG) considerations (Odobasa & Marosevic, 2023). The regulation also introduces standardized reporting requirements, sets forth mandatory sustainability reporting standards, and mandates the use of digital reporting formats to improve accessibility and facilitate data analysis. By harmonizing sustainability reporting practices across the EU and promoting greater transparency and accountability, the CSRD seeks to empower investors, stakeholders, and policymakers to make informed decisions, drive sustainable investments, and accelerate progress towards the EU's climate and sustainability goals (Baumuller & Grbenic, 2021).

## RESEARCH METHODOLOGY

This section outlines the research methodology employed in the study titled "Exploring the Impact of Generative AI on Financial Planning and Analysis: Assessing Efficiency, Accuracy, and its Implications with EU’s CSRD Regulation." The study primarily utilizes generative AI such as ChatGPT and Microsoft Copilot to analyze public annual reports and accounts of a selected EU-based publicly listed company, assessing the efficiency, and accuracy of generated financial analyses, in this case, the income statement and balance sheet reports from Danone and Phillips are selected.

**Data Collection Instruments**

1. Annual Reports: The primary data source for this study are the annual income statement and balance sheet reports that are available to the public of the selected companies for the last four consecutive years. These documents provide a wealth of information on the company’s financial performance
2. ChatGPT Prompts: A series of structured prompts will guide ChatGPT in analyzing the content of annual reports. These prompts are designed to extract financial data, perform ratio and trend analysis.
3. Calculating Tools: To measure the accuracy of these Generative AIs to calculate financial ratios, the researcher will test the percentage difference of the actual correct number and the number generated by the Generative AI in Microsoft Excel

## FINDING

### Danone SA (DANO)

Balance Sheet

| Period Ending: | 2023 | 2022 | 2021 | 2020 |
|---|---|---|---|---|
| | 31/12 | 31/12 | 31/12 | 31/12 |
| Total Current Assets | - | 12153 | 12056 | 10638 |
| Cash and Short Term Investments | - | 4682 | 5856 | 4273 |
| Cash | - | - | - | - |
| Cash & Equivalents | - | 1051 | 659 | 593 |
| Short Term Investments | 3638 | 3631 | 5197 | 3680 |
| Total Receivables, Net | - | 4142 | 3616 | 3362 |
| Accounts Receivables - Trade, Net | - | 3272 | 2862 | 2608 |
| Total Inventory | - | 2619 | 1982 | 1840 |
| Prepaid Expenses | - | - | - | - |
| Other Current Assets, Total | - | 710 | 602 | 1163 |
| Total Assets | 44486 | 45281 | 45420 | 42776 |
| Property/Plant/Equipment, Total - Net | - | 6752 | 6843 | 6572 |
| Property/Plant/Equipment, Total - Gross | 16059 | 16640 | 16020 | 14804 |
| Accumulated Depreciation, Total | -9618 | -9888 | -9177 | -8231 |
| Goodwill, Net | - | 17938 | 17871 | 17016 |
| Intangibles, Net | - | 6301 | 6182 | 6021 |
| Long Term Investments | 1131 | 1370 | 1329 | 1472 |
| Note Receivable - Long Term | - | 867 | 746 | 12 |
| Other Long Term Assets, Total | - | 21 | 233 | 1045 |
| Other Assets, Total | 8950 | 3567 | 5079 | - |
| Total Current Liabilities | - | 12130 | 11078 | 10338 |
| Accounts Payable | - | 4899 | 3998 | 3467 |
| Payable/Accrued | - | - | - | - |
| Accrued Expenses | - | 3036 | 2618 | 835 |
| Notes Payable/Short Term Debt | 2883 | 1116 | 757 | 1492 |
| Current Port. of LT Debt/Capital Leases | 2650 | 2512 | 3292 | 2270 |
| Other Current liabilities, Total | 561 | 567 | 413 | 2274 |
| Total Liabilities | - | 27289 | 28045 | 26571 |
| Total Long Term Debt | - | 11238 | 12537 | 12273 |
| Long Term Debt | - | 10508 | 11770 | 11529 |
| Capital Lease Obligations | - | 730 | 767 | 744 |
| Deferred Income Tax | 1489 | 1583 | 1502 | 1474 |
| Minority Interest | 46 | 69 | 102 | 93 |
| Other Liabilities, Total | -839 | 980 | 990 | 2393 |
| Total Equity | - | 17992 | 17375 | 16205 |
| Redeemable Preferred Stock, Total | - | - | - | - |
| Preferred Stock - Non Redeemable, Net | - | - | - | - |
| Common Stock, Total | 169 | 169 | 172 | 172 |
| Additional Paid-In Capital | - | 5188 | 5934 | 5889 |
| Retained Earnings (Accumulated Deficit) | - | 16666 | 18038 | 16124 |
| Treasury Stock - Common | - | -1569 | -2380 | -1595 |
| ESOP Debt Guarantee | - | - | - | - |
| Unrealized Gain (Loss) | - | - | - | - |

| | | | | |
|---|---|---|---|---|
| Other Equity, Total | -3996 | -2462 | -4389 | -4385 |
| Total Liabilities & Shareholders' Equity | - | 45281 | 45420 | 42776 |
| Total Common Shares Outstanding | 641.86 | 639.61 | 638.09 | 649.8 |

Income Statement

| **Period Ending** | **2023** | **2022** | **2021** | **2020** |
|---|---|---|---|---|
| | **31/12** | **31/12** | **31/12** | **31/12** |
| Total Revenue | 27619 | 27661 | 24281 | 23620 |
| Revenue | 27619 | 27661 | 24281 | 23620 |
| Other Revenue, Total | - | - | - | - |
| Cost of Revenue, Total | 14535 | 14922 | 12760 | 12267 |
| Gross Profit | 27619 | 12739 | 11521 | 11353 |
| Total Operating Expenses | 24068 | 24278 | 20946 | 20822 |
| Selling/General/Admin. Expenses, Total | - | 8931 | 7843 | 7651 |
| Research & Development | - | 339 | 338 | 323 |
| Depreciation / Amortization | 1611 | -1 | -3 | - |
| Interest Expense (Income) - Net Operating | -172 | -308 | -323 | - |
| Unusual Expense (Income) | - | - | 1078 | 530 |
| Other Operating Expenses, Total | 613 | 395 | 331 | 51 |
| Operating Income | 3481 | 3383 | 3335 | 2798 |
| Interest Income (Expense), Net Non-Operating | - | - | -167 | -207 |
| Gain (Loss) on Sale of Assets | -1128 | 2 | 8 | - |
| Other, Net | 2958 | 1580 | 747 | -103 |
| Net Income Before Taxes | 1650 | 1801 | 2580 | 2488 |
| Provision for Income Taxes | 768 | 778 | 589 | 762 |
| Net Income After Taxes | 882 | 1023 | 1991 | 1726 |
| Minority Interest | 46 | 69 | 102 | -74 |
| Equity In Affiliates | - | - | 585 | 304 |
| U.S GAAP Adjustment | - | - | - | - |
| Net Income Before Extraordinary Items | 881 | 959 | 1924 | 1956 |
| Total Extraordinary Items | - | - | - | - |
| Net Income | 881 | 959 | 1924 | 1956 |
| Total Adjustments to Net Income | -8 | -13 | -26 | -15 |
| Income Available to Common Excluding Extraordinary Items | 873 | 946 | 1898 | 1941 |
| Dilution Adjustment | 8.24 | 12.56 | 23.45 | - |
| Diluted Net Income | 872.76 | 946.44 | 1900.55 | 1941 |
| Diluted Weighted Average Shares | 641.74 | 639.48 | 646.45 | 649.97 |
| Diluted EPS Excluding Extraordinary Items | 1.36 | 1.48 | 2.94 | 2.99 |
| DPS - Common Stock Primary Issue | 2.1 | 2 | 1.94 | 1.94 |
| Diluted Normalized EPS | 3.01 | 2.87 | 3.43 | 3.78 |

The financial planning and analysis using for Danone SA using Generative AI are processed:

The financial planning and analysis using Generative AI are processed by asking both Generative AIs to calculate liquidity, profitability, and solvency ratios. The reason why those ratios are chosen because liquidity, profitability, and solvency ratios are essential for financial planning and analysis. Liquidity ratios measure a company's ability to meet short-term obligations and are essential for cash flow management and working

capital planning (Agusta & Hati, 2018). Solvency ratios assess a company's ability to meet long-term debt obligations and are crucial for capital structure planning and evaluating creditworthiness (Effendie et al., 2022). Meanwhile, profitability ratios measure a company's ability to generate profits and returns, which is essential for financial forecasting, budgeting, and strategic decision-making (Sholaeman et al., 2021). Overall, liquidity, solvency, and profitability ratios provide valuable insights into a company's financial health, enabling effective financial planning and analysis.

First the researcher inserted the prompt "Calculate the liquidity, profitability, and solvency ratios from year 2020 to 2023 and show the workings (the data below is from balance sheet and income statement from 2020 to 2023). The company is Danone SA (DANO)" and insert the financial data of Danone SA (DANO) by copying the table from Microsoft Excel in both ChatGPT and Microsoft Copilot. Both Generative AIs generated the result of the ratios along with the workings for liquidity, profitability, and solvency ratios. After receiving the result of the ratios, the accuracy of the ratios was assessed by comparing it with Microsoft Excel calculation. The result of the calculation for Danone SA by ChatGPT has 83% accuracy while Microsoft Copilot has 87% accuracy. It should be noted that sometimes both Generative AIs generated different formulas in some of the ratios, although the formula that was used is still acceptable. Furthermore, Danone SA has some missing numbers from the financial data such cash and prepaid expense that affect the calculation of the ratios and affected the accuracy percentage.

Afterwards, both Generative AIs are told to make financial recommendations based on the calculations that were generated with the prompt "Make a financial plan recommendation on the financial report above and give reasons, justifications, and reputable sources". For ChatGPT, the proposed financial strategy for Danone focuses on enhancing its overall financial health and market competitiveness through several key initiatives. Reducing the company's high Debt-to-Equity ratio is essential as it currently indicates a significant reliance on debt financing. By lowering this ratio, Danone can reduce financial risk and increase flexibility, a move supported by the Harvard Business Review for long-term stability and growth. Additionally, the strategy advocates for improving profit margins by increasing operational efficiency, reducing costs, and optimizing pricing strategies, as highlighted by McKinsey & Company as critical for sustainable growth and competitiveness.

Further recommendations include enhancing working capital management to improve liquidity, crucial for meeting short-term obligations and supporting growth, as noted by Deloitte's Center for Financial Services. Increasing investment in research and development is also advised to drive innovation and differentiation in the market, which the OECD recognizes as vital for productivity and competitiveness. Transparent communication with stakeholders is emphasized to foster trust and confidence, essential for long-term relationships and corporate integrity, according to the CFA Institute. Together, these strategic initiatives are designed to position Danone for sustainable growth and enhance its financial resilience and shareholder value, with adjustments tailored to market dynamics and industry trends.

Overall, ChatGPT managed to give rational financial recommendation plan with sources from reputable institutions such as Harvard Business Review, McKinsey, Deloitte, OECD, and CFA institute. However, all of the links mentioned cannot be opened or were already deleted by the institutions so that makes ChatGPT's justification unreliable.

For Microsoft Copilot, the same prompt was given to generate financial recommendation plan. The balance sheet, income statement, and cash flow statement are essential tools for analyzing a company's financial health and making informed investment decisions. The balance sheet offers a snapshot of a company's financial position at a particular moment, detailing assets, liabilities, and shareholders' equity. It reflects what the

company owns and owes, providing insights into its liquidity and solvency. The income statement, on the other hand, focuses on the company's financial performance over a period, tracking revenues, expenses, and net income to illustrate profitability and operational efficiency.

Furthermore, the cash flow statement provides a detailed account of cash inflows and outflows from operations, investing, and financing activities. This statement is crucial for assessing a company's ability to generate cash and meet its financial obligations. Together, these financial statements offer a comprehensive view of a company's financial dynamics. Sources like Investopedia, Harvard Business School Online, DFIN Solutions, and Bench Accounting offer valuable guidance on interpreting these documents. When analyzing financial statements, it's important to consider industry-specific factors and compare performance to peers, and consulting with a financial advisor or further research is advisable for a deeper understanding. Microsoft Copilot gave reputable sources to back their financial plan recommendations and all of the sources are link that can be accessed unlike ChatGPT.

**Philips NV (PHG)**

The financial statement of Philips NV (PHG) is shown below:

Balance Sheet

| **Period Ending:** | **2023** | **2022** | **2021** | **2020** |
|---|---|---|---|---|
| | **31/12** | **31/12** | **31/12** | **31/12** |
| Total Current Assets | 9940 | 10259 | 10347 | 11227 |
| Cash and Short Term Investments | 1872 | 1183 | 2305 | 3226 |
| Cash | - | - | - | - |
| Cash & Equivalents | 1869 | 1172 | 2303 | 3226 |
| Short Term Investments | 3 | 11 | 2 | - |
| Total Receivables, Net | 3953 | 4653 | 4288 | 4561 |
| Accounts Receivables - Trade, Net | 3733 | 4124 | 3849 | 4157 |
| Total Inventory | 3491 | 4049 | 3450 | 2993 |
| Prepaid Expenses | - | 174 | 172 | 169 |
| Other Current Assets, Total | 624 | 200 | 132 | 278 |
| Total Assets | 29406 | 30688 | 30961 | 27713 |
| Property/Plant/Equipment, Total - Net | 2483 | 2638 | 2699 | 2682 |
| Property/Plant/Equipment, Total - Gross | - | 6247 | 5997 | 5974 |
| Accumulated Depreciation, Total | - | -3609 | -3298 | -3292 |
| Goodwill, Net | 9876 | 10238 | 10637 | 8014 |
| Intangibles, Net | 3190 | 3526 | 3650 | 2997 |
| Long Term Investments | 1000 | 1197 | 1056 | 670 |
| Note Receivable - Long Term | 220 | 529 | 439 | 404 |
| Other Long Term Assets, Total | 290 | 381 | 356 | 303 |
| Other Assets, Total | 2792 | 2056 | 1512 | 530 |
| Total Current Liabilities | 8287 | 7934 | 7450 | 7735 |
| Accounts Payable | 1917 | 1968 | 1872 | 2119 |
| Payable/Accrued | - | - | - | - |
| Accrued Expenses | 1887 | 1974 | 2281 | 2364 |
| Notes Payable/Short Term Debt | 654 | 89 | 47 | 76 |
| Current Port. of LT Debt/Capital Leases | - | 842 | 459 | 1153 |
| Other Current liabilities, Total | 3829 | 3061 | 2791 | 2023 |
| Total Liabilities | 17345 | 17405 | 16486 | 15812 |

| | | | | |
|---|---|---|---|---|
| Total Long Term Debt | 7035 | 7270 | 6473 | 5705 |
| Long Term Debt | 7035 | 6418 | 5510 | 4757 |
| Capital Lease Obligations | - | 852 | 963 | 948 |
| Deferred Income Tax | 71 | 91 | 83 | 59 |
| Minority Interest | 33 | 34 | 36 | 31 |
| Other Liabilities, Total | 1265 | 1695 | 2147 | 1927 |
| Total Equity | 12061 | 13283 | 14475 | 11901 |
| Redeemable Preferred Stock, Total | - | - | - | - |
| Preferred Stock - Non Redeemable, Net | - | - | - | - |
| Common Stock, Total | 183 | 178 | 177 | 182 |
| Additional Paid-In Capital | 5827 | 5025 | 4646 | 4400 |
| Retained Earnings (Accumulated Deficit) | 5401 | 6833 | 9344 | 7827 |
| Treasury Stock - Common | -262 | -275 | -476 | -199 |
| ESOP Debt Guarantee | - | - | - | - |
| Unrealized Gain (Loss) | - | - | -344 | -305 |
| Other Equity, Total | 912 | 1522 | 784 | -309 |
| Total Liabilities & Shareholders' Equity | 29406 | 30688 | 30961 | 27713 |
| Total Common Shares Outstanding | 869.3 | 881.48 | 870.18 | 905.13 |

Income Statement

| **Period Ending:** | **2023** | **2022** | **2021** | **2020** |
|---|---|---|---|---|
| | **31/12** | **31/12** | **31/12** | **31/12** |
| Total Revenue | 18169 | 17827 | 17156 | 17313 |
| Revenue | 18169 | 17827 | 17156 | 17313 |
| Other Revenue, Total | - | - | - | - |
| Cost of Revenue, Total | 10721 | 10633 | 9933 | 9401 |
| Gross Profit | 7448 | 7194 | 7223 | 7912 |
| Total Operating Expenses | 18276 | 17912 | 16347 | 15628 |
| Selling/General/Admin. Expenses, Total | 5132 | 5290 | 4725 | 4564 |
| Research & Development | 1890 | 1969 | 1705 | 1691 |
| Depreciation / Amortization | 971 | 1239 | -1 | 690 |
| Interest Expense (Income) - Net Operating | -376 | -234 | -156 | -169 |
| Unusual Expense (Income) | - | - | 405 | 579 |
| Other Operating Expenses, Total | -62 | 254 | 140 | -549 |
| Operating Income | -107 | -85 | 809 | 1685 |
| Interest Income (Expense), Net Non-Operating | - | - | -34 | -13 |
| Gain (Loss) on Sale of Assets | - | 15 | 38 | 131 |
| Other, Net | 420 | 1631 | 262 | 343 |
| Net Income Before Taxes | -527 | -1731 | 509 | 1211 |
| Provision for Income Taxes | -73 | -113 | -103 | 212 |
| Net Income After Taxes | -454 | -1618 | 612 | 999 |
| Minority Interest | 33 | 34 | 36 | 31 |
| Equity In Affiliates | - | - | - | - |
| U.S GAAP Adjustment | - | - | - | - |
| Net Income Before Extraordinary Items | -456 | -1621 | 608 | 991 |
| Total Extraordinary Items | -10 | 13 | 2711 | 196 |
| Net Income | -466 | -1608 | 3319 | 1187 |
| Total Adjustments to Net Income | 10 | -13 | -2711 | -196 |
| Income Available to Common Excluding | -456 | -1621 | 608 | 991 |

| | | | | |
|---|---|---|---|---|
| Extraordinary Items | | | | |
| Dilution Adjustment | -7.28 | 14.17 | 2709.53 | 197.04 |
| Diluted Net Income | -458.72 | -1622.17 | 609.47 | 989.96 |
| Diluted Weighted Average Shares | 917.44 | 881.62 | 909.65 | 916.63 |
| Diluted EPS Excluding Extraordinary Items | -0.5 | -1.84 | 0.67 | 1.08 |
| DPS - Common Stock Primary Issue | 0.85 | - | 0.85 | 0.85 |
| Diluted Normalized EPS | -0.356 | -0.207 | 0.461 | 1.03 |

The financial planning and analysis for Philips NV by using Generative AI are shown below:

For the process of financial planning and analysis by ChatGPT and Microsoft Copilot followed the exact same steps as financial planning and analysis used for Danone SA. First, the prompt "Calculate the liquidity, profitability, and solvency ratios from year 2020 to 2023 and show the workings (the data below is from balance sheet and income statement from 2020 to 2023). The company is Philips NV (PHG)" was inserted to both ChatGPT and Microsoft Copilot. As expected, both Generative AIs generated the calculations of the ratios along with the formulas and workings. When the accuracy percentage calculated in Microsoft Excel, ChatGPT showed an astounding 99% accuracy while Microsoft Copilot only has 55% accuracy even though the financial data from Philips NV is more complete than Danone SA. It should be noted that sometimes Microsoft Copilot catch the wrong financial data and also in the wrong financial year.

For the financial plan recommendations, the same method for Danone SA was used. Both ChatGPT and Microsoft Copilot were told to make financial plan recommendations and give reasons, justifications, and sources to back their statements. For ChatGPT, the financial plan for Philips NV outlines strategic measures aimed at strengthening the company's financial health and positioning it for sustainable growth. The plan begins with an emphasis on liquidity management due to a noted decrease in liquidity ratios, which underscores potential challenges in meeting short-term obligations. To address this, the recommendation is to optimize working capital, manage inventory levels efficiently, and secure favorable payment terms with suppliers, as discussed in Deloitte's guide on liquidity strategies.

To enhance profitability, the plan advises a thorough review of operating expenses to identify and implement cost-saving measures, streamline processes, and invest in productivity-enhancing technologies. This approach is reinforced by McKinsey & Company's insights into cost optimization. Additionally, the plan suggests restructuring debt and optimizing the capital structure to mitigate solvency risks and reduce borrowing costs, with strategies that may include refinancing at lower interest rates and diversifying financing sources, as recommended by the Harvard Business Review.

Strategic investment in research and development is highlighted as crucial for maintaining competitiveness in the technology sector. The plan encourages investment in R&D that aligns with Philips NV's long-term growth goals and fosters a culture of innovation, supported by PricewaterhouseCoopers' analysis of R&D's role in driving innovation. Lastly, the plan advocates for a strong commitment to sustainability and ESG practices to enhance the company's reputation, attract investors, and manage risks, guided by insights from EY on the financial and transparency benefits of ESG. Implementing these strategies is projected to not only secure Philips NV's financial stability but also propel the company towards long-term value creation in a dynamic market environment. The sources given by ChatGPT has the same problem as the ones for Danone SA, none of the link cannot be accessed and therefore question the credibility of the sources.

For Microsoft Copilot, the financial strategy for Philips emphasizes enhancing its ability to meet operational and financial challenges through targeted management of liquidity, profitability, and debt. To maintain operational stability, the strategy underlines the importance of closely monitoring liquidity ratios such as the current ratio and quick ratio. If there is a notable decline, Philips should adjust its working capital management, optimize inventory levels, and manage receivables more efficiently, ensuring that the company can cover short-term liabilities smoothly.

For profitability enhancement, the focus is on improving return on equity (ROE) and return on assets (ROA). This can be achieved through cost optimization, pursuing revenue growth, and boosting operational efficiency, which will not only attract investors but also enhance long-term sustainability. In terms of debt management, the strategy involves careful monitoring of the debt-to-assets ratio to manage the proportion of assets financed by debt effectively. Options like refinancing high-cost debt and negotiating favorable terms are recommended to maintain a balanced capital structure and avoid excessive financial risk that could affect creditworthiness.

Additionally, Philips is advised to maintain a healthy interest coverage ratio to ensure it can comfortably meet its debt obligations, exploring ways to reduce interest costs or increase operating income if necessary. The strategy also includes industry benchmarking to contextualize Philips' financial ratios against industry standards using reputable financial databases and analyst reports. This comparative analysis will help identify performance gaps and areas for improvement.

Philips should adapt its financial strategies to its specific conditions, market dynamics, and long-term objectives. It's recommended to utilize insights from financial news outlets, annual reports, and industry publications, and to consult with financial professionals to tailor advice and ensure robust financial planning. This approach will help Philips navigate its financial landscape effectively, optimizing performance and securing its competitive position in the market. For this financial plan recommendation, Microsoft Copilot did not give the links ff reputable sources but advice financial news outlets, annual reports, and industry publications instead. Microsoft Copilot also said to consult with financial professionals for personalized advice.

**Impact of Generative AI on Financial Planning and Analysis**

Generative AI has significantly impacted financial planning and analysis practices, with tools like ChatGPT and Microsoft Copilot efficiently processing complex financial data to calculate key ratios like liquidity, profitability, and solvency. However, their accuracy varies based on the quality of input data. Specimens like Bloomberg GPT, similar to ChatGPT but fine-tuned for financial contexts, can enhance the efficiency and accuracy of financial planning and analysis. These models have extensive training in financial data, allowing them to understand market dynamics, complex financial concepts, and industry-specific terminology. This domain-specific knowledge allows them to navigate financial landscapes with precision, offering nuanced insights and predictive capabilities for informed decision-making. Their ability to process vast amounts of data streamlines tasks, freeing up time for analysts to focus on strategic planning and critical decision-making processes. Natural language interaction provides intuitive access to financial insights and facilitates seamless communication between users and data, democratizing access to financial expertise.

In addition, within the insights from Generative AI, ChatGPT able to perform optimization of resource allocation through budgets allocations, staffing levels adjustment, and performing a well-informed decision related to the capital investments to maximize their ROI and efficiency (Beerbaum, 2023). Generative AI able to also assists for the company operators in the identification and mitigation of financial risks through historical

data analysis, trends, as well as the other external factors in developing clearer strategies due to minimize potential risks that may harm the company's financial performance (Arnold, 2023).

In summary, at the end of the day, Generative AI still need human assistance, meaning that while Generative AI can give justified financial plan recommendations and ratio calculations, ultimately finance professionals still need to make the final decision. Generative AI basically just act as a support for finance professionals to ease their tasks. And for the Generative AI to give correct result, the prompt given needs to have robust and detailed information as proven in the Philips NV.

**The Correlation Between EU's CSRD and FP&A**

The European Union's Corporate Sustainability Reporting Directive (CSRD) is a significant change in how companies report on their environmental, social, and governance (ESG) activities. It expands the previous Non-Financial Reporting Directive (NFRD) and mandates more detailed reporting, requiring companies to disclose their impact on people and the planet. The directive also introduces significant changes for Financial Planning and Analysis (FP&A) within organizations, emphasizing the need for extensive data management and strategic adaptation. This involves integrating diverse data sources and developing sophisticated analytical processes to accurately capture and report the material impacts of sustainability practices.

The CSRD directive requires financial and sustainability reports to be integrated, requiring collaboration between finance and accounting departments. This requires adherence to standardized digital reporting formats and adjustments to FP&A processes. Advanced technologies like Retrieval Augmented Generation (RAG) and Large Language Models (LLMs) are being used to improve data processing and reporting efficiency. The directive also encourages FP&A teams to take a more proactive role in communicating sustainability performance and shaping organizational sustainability initiatives. This strategic involvement will foster deeper partnerships and integrate FP&A into corporate strategic planning and execution. The CSRD will significantly impact FP&A processes, requiring enhanced data management, standardized reporting, and potential AI technology use to meet the directive's rigorous sustainability reporting requirements.

## CONCLUSION

The integration of Generative AI into Financial Planning and Analysis (FP&A) and the EU's Corporate Sustainability Reporting Directive (CSRD) is transforming the way companies manage and report financial and sustainability data. Generative AI enhances efficiency, accuracy, and depth of financial analysis, allowing for more informed decision-making and strategic planning. It also streamlines data collection, optimizes resource allocation, and mitigates financial risks. The CSRD mandates more detailed and integrated reporting of environmental, social, and governance (ESG) data, requiring companies to gather and analyze extensive ESG data and integrate it with financial reporting. This directive reshapes the FP&A landscape, requiring teams to adapt to new reporting standards, develop sustainability competencies, and leverage advanced technologies like AI. FP&A professionals must navigate these enhanced responsibilities by fostering stronger collaborations within the company and engaging proactively with external stakeholders.

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