Analyze How Can AI Facilitate the Communication and Collaboration Between Internal Departments and Their External Partners

Novtrianto Ramadhany, Gary McGuinness
Departemen Akuntansi Fakultas Ekonomika dan Bisnis Universitas Diponegoro
Jl. Prof. Soedharto SH Tembalang, Semarang 50239, Phone: +62821352409878

ABSTRACT

The research "Analyze How Can AI Facilitate the Communication and Collaboration Between Internal Departments and Their External Partners" aims to determine the efficiency and effectiveness of AI outputs in assisting finance and accounting departments in communicating and collaborating with internal departments and external partners. This study using qualitative approaches which contains manual observation, reviewing the relevant literature, and analyzing reports and publications. The main findings of this research to examine how efficient and effective the generative-AI as a tool to support stakeholder in order to analyze financial performance as early warning system to indicate if there is need an evaluation and action needed, which can be continued to each related departments in the company. Furthermore, this research can help the shareholders and investors to analyze and to get more information about the company from a financial perspective. This research has limitations in information and advice that generative-AI serves to the researcher.

Keywords: Artificial Intelligence, Finance, Finance & Accounting, ChatGPT, Generative-AI, Positive Impact, LLM, ML, RPA.

INTRODUCTION

Over the past decade, the rapid progress in Artificial Intelligence (AI) has deeply changed how industries operate, particularly in finance and accounting. The continuous shift towards digital transformation has created fresh prospects and introduced unique challenges in the realm of corporate financial management. According to Tiwari (2023) Artificial Intelligence (AI) is a field of computer science that aims to create machines that can perform tasks that would normally need human intellect, such comprehending natural language, and making choices. AI's fundamental function is to simulate human intelligence in machines by programming them to think and learn similarly to humans.

With the presence of AI, organizations in the finance and accounting sectors are assured to enhance operational efficiency, optimize decision-making, and respond rapidly to changes in market conditions. In the perspective of the next 10 years, the development of AI is expected to further expand and deepen, bringing positive impacts in addressing the complexity of financial and accounting tasks.

During the era of Artificial Intelligence, finance & accounting staff would leave the accounting program to complete a few more complex tasks. These would significantly boost working performance, minimize errors, increase companies' productivity, and also allow the accounting industry to further transforming the accounting field (Chaoyi et al., 2020 as cited in Berdiyeva et al., 2021). The integration of this technology is not merely about automating routine tasks but also about transforming the way of thinking and working, laying the foundation for higher synergy and efficiency in corporate financial management.

Over the past decade, the finance and accounting landscape has undergone a profound transformation propelled by rapid advancements in Artificial Intelligence (AI). Notably, AI applications like ChatGPT exemplify the remarkable potential of this technology, going beyond mere automation to generate detailed financial reports, including balance sheets, income statements, and cash flow statements. Acting as both a tool for automation and an analytical assistant, ChatGPT provides

invaluable insights to clients by discerning financial trends and patterns, empowering stakeholders to make well-informed decisions.

The impact of AI extends far beyond report generation, explore into advanced predictive analytics that allows organizations to foresee market trends and potential risks. Real-time decision support systems, fraud detection mechanisms, and personalized financial services are additional pivotal contributions of AI. These multifaceted functionalities collectively redefine the role of finance professionals, enabling them to engage in more strategic and value-added tasks However, as AI proliferates in the finance sector, ethical considerations and regulatory compliance have risen to the forefront. Organizations must navigate these considerations diligently to ensure responsible AI use and the safeguarding of sensitive financial data. Striking a balanced approach is imperative, acknowledging the transformative potential of AI while upholding ethical standards and meeting regulatory requirements.

In summary, the ongoing integration of AI in finance and accounting signifies more than just increased operational efficiency; it positions organizations with a competitive advantage in navigating the complex modern financial management landscape. AI's transformative influence is evident in its ability to empower finance professionals, streamline decision-making processes, and contribute to a more strategic and adaptable approach to financial management, thereby reshaping the industry for the future.

Management Objectives

This study focuses on analyzing how ChatGPT can facilitate finance & accounting department in communication and collaboration between internal departments and their external partners. With the presence of AI like ChatGPT, it is expected to assist and support communication and collaboration both internally and externally with specific needs and importance of each party.

From a practical side, this study seeks to benefit internal departments in various ways. Stakeholders can utilize AI, like ChatGPT to assess the financial progress of company and create early warning systems, providing crucial alerts, marketing departments can be assisted in analyzing their sales and COGS (Cost of Goods Sold) from their performance data and offering valuable insights for future evaluations. Additionally, staff from other departments have benefit by examining their achievements and performance through data located in profit centers. Also, ChatGPT helps investors as the new system that can be potential to serve as a tool for more efficient analysis of the financial condition of the company. Otherwise, this study can be used as reference material for researchers and other practitioners in developing similar research and practices in the future.

The company coach at a university specializing in technological changes for the finance sector, the management challenge involves dealing with various complex issues. The main focus is on keeping up with rapid technological advancements, especially in areas like AI, which are essential for financial operations. The coach is expected to engage in strategic planning for future technological needs. This forward-thinking approach is vital for keeping the university's finance sector competitive and efficient in a constantly evolving technological landscape. A key responsibility is to assess if emerging technologies are suitable for the university's finance sector and educational sector. This goes beyond just finding cutting-edge solutions; it involves determining if these technologies fit the specific needs, constraints, and existing systems of the university. The aim is to strike a balance between theoretical and practical use.

Research Objectives

In the rapidly advancing technological era with various new technologies, particularly Artificial Intelligence (AI) play a crucial role in professional work, especially in the fields of finance and accounting. Sophisticated technologies like AI prove to be highly beneficial tools for employees in

finance and accounting departments. With the presence of AI, office tasks can be accomplished more swiftly and bring positive impacts not only to the respective departments but also to external partners. One significant hurdle involves integrating AI into our current systems, considering the diverse platforms we use internally and with external collaborators. Ensuring smooth data integration is crucial but often complex, with potential discrepancies in data structures causing communication challenges.

However, in this ever-evolving era, the efficiency and effectiveness of AI outputs in assisting finance and accounting departments in communicating and collaborating with internal departments and external partners still poses questions. Financial statements, as a key output of finances and accounting departments, hold a significant role within a company. (Woojin Choi, 2021) stated "Financial statements are designed to give readers and the business in question the most straightforward and concise presentation of the entity's financial data." Typically, financial statements include the cash flow statement, owner's equity statement, balance sheet, and income statements.

Through financial statements, stakeholders can control the progress of the company and make informed decisions. These statements are also valuable for other internal departments to meet their respective needs. And also, the investors could utilize the financial statement of the company to assess its future financial and fundamental performance. However, despite these benefits, there are still challenges for AI in terms of accuracy, especially in calculating financial ratios used by internal departments and external partners. This indicates that while AI technology has brought about positive impacts, there is a need for further attention to ensure accuracy and reliability in its application, especially in the context of finance and accounting.

Research Question

Main Question

How can AI facilitate the communication and collaboration between internal departments and their external partners?

Sub-Question

1. How can the early warning system based on financial ratios be integrated into the financial profession?

2. What financial ratios are most relevant for assessing the financial performance of the organization?

3. How effective generative-AI analyze the financial ratio of the company?

THEORETICAL FRAMEWORK

Strategic Management Theory

This theory provides principles for formulating and implementing organizational strategies. It emphasizes the importance of aligning financial performance with strategic objectives and suggests that the early warning system should be designed to support strategic decision-making by providing insights into whether the organization is achieving its long-term goals.

Strategic management has evolved from an applied area to a strongly theory-based and eclectic field, with contributions from industrial organization economics, organizational economics, and resource-based views of the firm (Hoskisson, R. et al., 1999) and strategic management can focusing on the organizations to addressing issues of new business creation, innovation, opportunity seeking, risk assumption, and top management teams (Sandberg, 1992).

This theory focuses on the formulation and implementation of strategies to achieve organizational goals and gain competitive advantage. It encompasses several key concepts:

1. Strategic Planning: This involves setting objectives, analyzing the internal and external environment, formulating strategies, and implementing them to achieve organizational goals. The early warning system based on financial ratios can be integrated into strategic planning by providing insights into financial performance trends, strengths, weaknesses, opportunities, and threats.

2. SWOT Analysis: SWOT analysis identifies an organization's strengths, weaknesses, opportunities, and threats. The early warning system can contribute to SWOT analysis by providing data on financial metrics (profitability, liquidity, efficiency, etc.), allowing organizations to identify areas of improvement, potential risks, and emerging opportunities.

Overall, Strategic Management Theory provides a framework for aligning the early warning system with the organization's strategic objectives and ensuring that financial performance insights support decision-making processes aimed at achieving long-term success and competitive advantage.

Stakeholders Theory

Stakeholders Theory is concerned with who has input in decision-making as well as with who benefits from the outcomes of such decisions (Phillips et al., 2003 as cited in Crane, A., & Ruebottom, T., 2010). This theory emphasizes the importance of considering the interests of all stakeholders, not just shareholders, in organizational decision-making. Integrating the early warning system can help organizations anticipate the impacts of financial performance on various stakeholders and make decisions that balance their competing interests effectively. Key concepts of Stakeholder Theory include:

1. Stakeholder Identification: Stakeholders are individuals or groups who can affect or are affected by the organization's actions. They may include employees, customers, suppliers, communities, and regulatory bodies. The early warning system can help identify stakeholders impacted by financial performance and provide insights into their concerns and interests.

2. Stakeholder Engagement: Stakeholder Theory emphasizes the importance of engaging with stakeholders and considering their perspectives in decision-making. The early warning system can facilitate stakeholder engagement by providing transparent and objective data on financial performance, enabling organizations to communicate effectively with stakeholders and address their concerns.

In summary, Stakeholder Theory underlines the importance of integrating the early warning system into decision-making processes that consider the interests of all stakeholders, leading to more sustainable and responsible organizational practices.

Research Variables

The sub-chapter of this theoretical framework will describe the correlation between variables to support the researcher hypothesis. The dependent variable and independent variable are both used to assist in this research. It is assumed that the independent factors have a direct impact on the dependent variable. In this study, the independent variables are Artificial Intelligence (AI). While communication and collaboration between internal departments and external partners is the dependent variable.

The researcher wants to analyze how effective and efficient the generative-AI in helping the stakeholders as a tool to support early warning system for the company, where the result of data and alternate solutions from the generative-AI may be support communication and collaboration for each

department to optimize performances of the company and as a useful information for the external partners such as the shareholders and the investors.

Allal et al. (2021) explain that AI has the capability to boost the performance of the company by automating tasks, help to make complex strategic decision-making, and do collaboration between different departments. It has the potential to impact all aspects of a company's operations, not just by automating and improving current processes, but also by supporting strategic and collaborative. It supported by PwC report in 2017 that AI offers support by increasing productivity through the automation of business processes, boosting productivity by integrating AI technologies into the existing workforce, and increasing consumer demand driven by the availability of personalized and/or superior-quality products and services enhanced by AI.

RESEARCH METHODOLGY

Literature Review Methodology

In all studies, the literature review is a significant consideration as well as it is an assessment that usually includes an outline, explanation, and a critical appraisal of past study, obstacle or difficulty current research and recognizes or set up new research issues and encouraging research questions available data (Boell and Cecez-Kecmanovic, 2015 as cited in Chnar, 2020).

In constructing the literature review methodology, the integration of articles from reputable journals is pivotal, as these publications establish the current state of research by presenting established theories, methodologies, and empirical findings. This not only grounds the study in existing knowledge but also provides a foundation for understanding the theoretical framework and empirical landscape. The process of incorporating journal articles into a research thesis involves identifying relevant databases, conducting targeted keyword searches, and carefully selecting articles to ensure the literature review is built on up-to-date and credible knowledge, enhancing the overall quality of the thesis. For example, this study uses the journal from Cao, Y., & Zhai, J. (2023) with title "Bridging the gap – the impact of ChatGPT on financial research."

Similar to journal articles, the inclusion of theses and dissertations in the literature review methodology plays a significant role in research exploration. These works, representing in-depth research by graduate students, often provide comprehensive insights into methodologies, data analyses, and extensive literature reviews that may not be encapsulated within traditional journal formats. To integrate theses and dissertations, researchers should explore institutional repositories, libraries, and online databases hosting graduate works, choosing those closely aligned with their research topics. Extracting and analyzing methodologies employed in these graduate-level works offer valuable insights, guiding methodological choices and contributing to the overall depth of the research thesis. For example, this study uses thesis from Liu, Z. (2023). With title "Research on the Impact of ChatGPT on the Accounting Industry and Countermeasures."

Diversifying the sources in the literature review, including books, conference proceedings, reports, and grey literature, expands the review's scope and adds richness to the research thesis by incorporating varied viewpoints. This research focuses on using reports with practical insights and diverse perspectives from industry or government sources and enhances the comprehensive understanding of the subject. Each source should be documented and critically evaluated to ensure a robust literature review. This inclusive approach showcases the researcher's thorough understanding of the topic and positions them as a well-rounded and informed contributor to the academic discourse. For example, this research using report from Ravikumar et al, (2021) who works for IMF with title "*Powering the Digital Economy: Opportunities and risks of Artificial intelligence in finance.*"

Identification of Key Words

In order to retrieve the relevant articles, the following key words and abbreviations have been used in various combinations: *Artificial Intelligence, Finance, Finance & Accounting, ChatGPT, Generative-AI, Positive Impact, LLM, ML, RPA.*

Selection of Search Engines

In choosing the search engines for my research, the researcher carefully picked platforms that would help me find the most relevant information. In this research, the researcher using Google Scholar is a massive library for academic articles which has access to a wide range of scholarly work. Secondly, Saxion Library, it provides materials tailored to specific research context with many theses and dissertation that can be a references for the researcher. Third, Research Gate connects the researcher with researchers globally, with many sources of conference papers, and collaborative insights for a more comprehensive view. Lastly, Web of Science for its thorough coverage to helps explore literature in a systematic way. By using this mix of search engines, the researcher aims to cast a wide net and ensure the research thesis benefits from a diverse range of high-quality sources, providing a well-rounded perspective on my topic.

Article Search Method

For this research, the specific article or journal brings a different angle to the paper. The journal of Artificial Intelligence as a knowledge about latest update and advancement in the field with offering insight into the latest developments. The journal of Economic also contributes with valuable information on economic theories that related to the research. Moreover, the journal of Finance and Accounting has an important role in providing depth analysis and empirical studies for explore financial aspect for the research.

Data Research Methodology

The most suitable method of collecting data in this research is by conducting qualitative method. (Ugwu et al., 2023) Qualitative research is used to comprehend how individuals perceive their surroundings, and also in his research about qualitative research that a type of qualitative research known as action research aims to improve practice while examining the effects of the action that was taken.

The main purpose of this study analyzes how ChatGPT can facilitate finance & accounting department in communication and collaboration between internal departments and their external partners. Moreover, this study has a benefit for employees across various departments by aiding them in completing tasks more effectively and efficiently. Additionally, it can provide valuable insights for management to evaluate the financial performance of the company and make better decisions for the organization. To gain all the information that the researcher seeks, the researcher needs the financial report of the company to calculate financial ratios for evaluate the performance for the company in the future using ChatGPT and other generative-AI as comparison. At the same time, the researcher performs manual calculations using Microsoft Excel to strengthen the outcomes of the research.

In this case, the financial report of a selected company will serve as a benchmark and testing material for the upcoming Generative-AI and Microsoft Excel-based calculations. This approach is adopted due to the inherent possibility that errors may be present in the results of either calculation method. The analysis derived from these calculations becomes crucial in informing potential actions or decisions by the company. Additionally, it has a significant role in evaluating the condition of the company for external parties, including investors, shareholders, and the public, which can be used based on their specific interests and perspectives.

In this research thesis, the focus leans towards the approach of action research by testing data derived from the financial report, which is utilized to calculate financial ratios such as liquidity, profitability, leverage, efficiency, and valuation. Eventually, the obtained ratios can be utilized by stakeholders to establish an early warning system, serving as an evaluative tool. As stated in the research by (Streubert, H. J. and Carpenter, D. R., 2002 as cited in Ugwu et al., 2023) "A type of qualitative research known as action research aims to improve practice while examining the effects of the action that was taken." The qualitative nature of the research adds depth to the exploration, allowing for a nuanced understanding of how technology can be effectively integrated into financial practices.

Data Collection Methods

In this research, the researcher does the observation using generative-AI (ChatGPT and Copilot) and manual calculation with excel as comparison to calculate the financial ratio of PT Aneka Tambang (ANTM), state-owned mining company in Indonesia as sample, which already meet the criteria as a sample that the company should IPO and the financial statement of company is published. The instruments that are going to be used are a prompt in ChatGPT and Copilot. This research uses various tools to compare the effectiveness generative-AI analyzes the financial ratio and shows the capabilities of each tool that researcher uses. These methods include manual observation with the analysis and literature review.

Table 1: Methodology per sub-questions

No	Sub-research Questions	Data Collection Methods	Discernment
1	How can the early warning system based on financial ratios be integrated into the financial profession?	a) Observation	Analyze how the early warning system based on financial ratio can be implemented in financial profession
2	What financial ratios are most relevant for assessing the financial performance of the organization?	a) Observation b) Literature Review	Finding which financial ratio is the most relevant for assessing the financial performance
3	How effective generative-AI analyze the financial ratio of the company?	a) Observation	Finding how generated-AI effectively in analyze the financial ratio

RESULT

1. **How can AI facilitate the communication and collaboration between internal departments and their external partners?**

Based on the observations using the financial statements of PT Aneka Tambang (ANTM) as a sample and research tools (ChatGPT, Copilot, and Excel) to achieve the desired research objectives. Based on *appendix A*, the researcher found that not all Generated-AI can provide financial ratio analysis, like ChatGPT. However, on *appendix B,* the analysis of financial ratio can be presented by Copilot, although there are still differences in the calculation of financial ratios compared to observations using Microsoft Excel as it shows on *appendix C* which is based on data from the financial statements of PT Aneka Tambang (ANTM).

Nevertheless, if the data presented by Generated-AI has a correct calculation, then this data can help stakeholders to evaluate, prevent losses, and improve the performance of the company. The

stakeholders can coordinate with the related internal departments to carry out tasks that require the results of financial ratio analysis, such as increasing sales. With the information available about the performance of the company using generative AI as a tool to help analysis, communication between stakeholders with each division head that can be continued to the related division employees will be greatly facilitated. If there is an evaluation or action to support the performance of the company, it will be quickly delivered and easily resolved by each division. And also, the data can be used by external partners, such as investors, to see the performance of the company which can be as an indicator of the investors for investing more share or not.

2. How can the early warning system based on financial ratios be integrated into the financial profession?

Stakeholders can use this generative AI as a support tool to serve as an early warning system for the performance of the company, which can be conducted periodically, such as monthly, quarterly, or annually, with financial reports from previous years used to track the progress of the performance. Logically, the results of the analysis assisted by generative AI can indicate the achievement of company goals based on monthly performance reports. Moreover, these analysis results can be reviewed by stakeholders and division heads in meetings to identify any obstacles that may affect working activities. With the existence of an early warning system, the analysis of financial ratios can detect and shows an impairment, management can use generative ai as a tool to provide an advice which show on *appendix B* then they can take action to evaluate the issue and swiftly seek appropriate solutions. For example, if the calculation result of the inventory turnover ratio on certain period shows that the ratio has a high result which mean it takes a long time to sell the inventory, then this ratio indicates that the turnover of inventory into cash is very slow.

Stakeholders can collaborate with the marketing division to find solutions to overcome this problem. This can be done by selling inventory faster or finding strategies such as selling inventory with a discount so that the inventory can be sold, thus increasing the efficiency from inventory to cash faster. Consequently, selling this inventory product can increase profits from sales and improve this inventory turnover ratio.

3. What financial ratios are most important for assessing the financial performance of the organization?

Profitability ratio, because one of main goals of every company to achieve the maximum profit and in Gomoi, B. (2021) research stated that profitability ratios are key indicators for understanding and evaluating the financial position and performance of economic entities, aiding in managerial decision-making. However, the profitability ratio is related to other financial ratios, such as the efficiency ratio, leverage ratio, and liquidity ratio, which can be calculated through financial statements.

In researcher logic, if the efficiency ratio has a large result, it can be concluded that the company takes a long time to convert assets into cash and with these results it explains that the company is not good at processing these assets and vice versa. Then, with the result of the efficiency ratio, it will affect the number of short-term liabilities which become a component of the calculation in the liquidity ratio. After that, the liquidity ratio can also affect the leverage ratio, the ratio that measures the level of long-term liabilities of the company and it supported by Corporate Finance Institute stated that A leverage ratio is any kind of financial ratio that indicates the level of debt incurred by a business entity against several other accounts in its balance sheet, income statement, or cash flow statement, where the calculation is also influenced by the liquidity ratio. If the Company has a poor liquidity ratio and is not handled quickly, it will affect the following years (long-term liabilities) or leverage ratio of a Company. And the last, the effect of leverage ratio on the profitability ratio of a company. Leverage is a ratio that describes the relationship between a debt of the company and its capital. This ratio can show the extent to which a company is financed by debt or external parties in relation to the capability of the company, as depicted by its capital (Harahap, 2013 as cited in Ratnasari, 2016). A debt can affect profitability of

the company because the ability of the company to efficient or not in pay the long-term liabilities, it can determine whether the profits of the company are optimal or not, which can be measured through the profitability ratio.

4. How effectively does generative-AI analyze the financial ratio of the company?

Based on the observation by researcher and show on *appendix A* and *appendix B* the effectiveness of Generative-AI in analyzing financial ratios of companies is considered not effective in analyzing the financial ratio. Each appendix shows that if generative-AI can not do analysis of the financial ratio optimally due to the limitations of each generative-AI. Meanwhile, *appendix B* show the capability to analysis the financial ratio where it provides the calculation based on data and provide explanation of each ratio which is support an advice regarding to the financial ratio, although the resources of data are not from the financial report of company and have a different result with manual calculation using Excel. However, it is still possible that generative-AI will become more effective in analyzing financial ratios in the future, as technology is rapidly evolving.

For example, based on *appendix A* shows that the generative-AI cannot serve the analysis with current data and it has a limitation in analysis data, have an errors in ratio calculations, the resources of data does not from the financial statements of company, and the advice for company still wide information.

CONCLUSION

In general, based on the observation using generative-AI (ChatGPT and Copilot) shows that it can help communication and collaboration with internal departments such as marketing division, finance division, IT division, etc. and external partners even though for now generative-AI cannot support users optimally.

In this research, generative-AI as a tool to support the research is used to calculate financial ratios with the objective as an early warning system that can be used as a warning indicator about the performance of the company which show in financial ratio. For now, stakeholders as top-level management can use Copilot as a tool to support in calculate and explain the condition of the company from a result of analysis on financial ratio and as a reference for suggestions to improve the performance of the company even though it still has to be processed and analyzed further for the reason it still has limitations in providing financial ratio analysis results.

Furthermore, shareholders and investors can use this generative-AI in finding information related to the condition of the company to support in find out about the performance of the company. Meanwhile, based on *appendix A*, ChatGPT is not possible to provide a financial ratio analysis of the company, but this generative-AI can provide financial ratio calculation formulas and explanations of each ratio well.

REFERENCES

Allal-Chérif, O., Simón-Moya, V., & Ballester, A. (2021). Intelligent purchasing: How artificial intelligence can redefine the purchasing function. *Journal of Business Research*, 124, 69-76. https://doi.org/10.1016/j.jbusres.2020.11.050.

Berdiyeva, O., Islam, M. U., & Saeedi, M. (2021). Artificial Intelligence in Accounting and Finance: Meta-Analysis. *NUST Business Review*, *3*(1), 56–79. https://doi.org/10.37435/nbr21032502

Boukherouaa et al. (2021). Powering the Digital Economy: Opportunities and risks of Artificial intelligence in finance. *Departmental Papers*, *2021*(024). https://doi.org/10.5089/9781589063952.087.a001

Cao, Y., & Zhai, J. (2023). Bridging the gap – the impact of ChatGPT on financial research. *Journal of Chinese Economic and Business Studies*, *21*(2), 177–191. https://doi.org/10.1080/14765284.2023.2212434

Choi, W. (2021). The role of financial statement in decision making. *Social Science Research Network*. https://doi.org/10.2139/ssrn.3920990

Corporate Finance Institute. (n.d.). Financial Ratios eBook. In *Corporate Finance Institute*. https://corporatefinanceinstitute.com/assets/CFI-Financial-Ratios-Cheat-Sheet-eBook.pdf

Crane, A., & Ruebottom, T. (2010). Stakeholder Theory and Social Identity: Rethinking Stakeholder Identification. *Journal of Business Ethics*, 102, 77-87. https://doi.org/10.2139/ssrn.1662437.

De, A. (2011). ANALYSIS OF THE RELATIONSHIP BETWEEN FINANCIAL RATIOS AND NET INCOME USING a FACTOR AND PANEL DATA ANALYSIS. In *Abstract* [Journal-article]. https://cladea.org/wp-content/uploads/2021/12/CLADEA_2018_paper_309.pdf

Gomoi, B. (2021). Management and Profitability Ratios – The Connection Between the Financial Position and the Performance of the Economic Entities. , 2, 39-46. https://doi.org/10.37945/CBR.2021.04.05.

Gokul, A. LLMs and AI: Understanding Its Reach and Impact. Preprints 2023, 2023050195. https://doi.org/10.20944/preprints202305.0195.v1

Hasanaj, P., & Kuqi, B. (2019). Analysis of financial statements. *Humanities and Social Science Research*, *2*(2), p17. https://doi.org/10.30560/hssr.v2n2p17

Hoskisson, R., Hitt, M., Wan, W., & Yiu, D. (1999). Theory and research in strategic management: Swings of a pendulum. *Journal of Management*, 25, 417 - 456. https://doi.org/10.1177/014920639902500307.

International Accounting Standards Board. (2001). *IAS 1 Presentation of Financial Statements*. https://www.ifrs.org/content/dam/ifrs/publications/pdf-standards/english/2022/issued/part-a/ias-1-presentation-of-financial-statements.pdf?bypass=on

Liu, Z. (2023). Research on the Impact of ChatGPT on the Accounting Industry and Countermeasures. *Frontiers in Business, Economics and Management*, *11*(2), 49-53. https://doi.org/10.54097/fbem.v11i2.12162

Mahesh, B. (2019). Machine Learning Algorithms -A Review. *ResearchGate*. https://doi.org/10.21275/ART20203995

Mustafa et al. (2021). Literature Review as a Research Methodology: An overview and guidelines. *ResearchGate*. https://www.researchgate.net/publication/350581402_Literature_Review_as_a_Research_Methodology_An_overview_and_guidelines

PwC. (2017). *Sizing the prize*. https://www.pwc.com/gx/en/issues/analytics/assets/pwc-ai-analysis-sizing-the-prize-report.pdf

Prakash, R. & Department of Management Studies, Bharath Institute of Higher Education And Research, Chennai. (n.d.). *A STUDY ON FINANCIAL RATIO ANALYSIS OF AICHI STEEL CORPORATION*. https://www.bharathuniv.ac.in/page_images/pdf/Mr.Prakash.pdf

PT ANEKA TAMBANG TBK & ENTITAS ANAK/AND SUBSIDIARIES. (2023). *LAPORAN KEUANGAN KONSOLIDASIAN/CONSOLIDATED FINANCIAL STATEMENTS 31 DESEMBER 2023 DAN 2022/31 DECEMBER 2023 AND 2022*. https://www.antam.com/en/reports/financial-reports

Quesada, H. J., (2019). *Analysis of financial statements using ratios*. https://vtechworks.lib.vt.edu/bitstream/handle/10919/93102/CNRE-43P.pdf?sequence=1&isAllowed=y

Ratnasari, L. (2016). *PENGARUH LEVERAGE, LIKUIDITAS, UKURAN PERUSAHAAN TERHADAP PROFITABILITAS PADA PERUSAHAAN OTOMOTIF DI BEI*. (n.d.). http://jurnalmahasiswa.stiesia.ac.id/index.php/jirm/article/view/796/810

Ravikumar et al, (2021). *Powering the Digital Economy: Opportunities and risks of Artificial intelligence in finance*. IMF. https://www.imf.org/en/Publications/Departmental-Papers-Policy-Papers/Issues/2021/10/21/Powering-the-Digital-Economy-Opportunities-and-Risks-of-Artificial-Intelligence-in-Finance-494717

Sandberg, W. (1992). Strategic Management's Potential Contributions to a Theory of Entrepreneurship. *Entrepreneurship Theory and Practice*, 16, 73 - 90. https://doi.org/10.1177/104225879201600305.

Suthar, K. (2023). Financial Ratio Analysis: A theoretical study. *ResearchGate*. https://www.researchgate.net/publication/376043402_Financial_Ratio_Analysis_A_Theoretical_Study

Tiwari, R. (2023). AI 101 An Introduction to Artificial Intelligence. *ResearchGate*. https://www.researchgate.net/publication/367089697_AI_101_An_Introduction_to_Artificial_Intelligence

Ugwu, C. N., & Eze, V. H. U. (2023). Qualitative research. *ResearchGate*. https://www.researchgate.net/publication/367221023_Qualitative_Research