

Evolution of Generative AI for Business Decision-Making: A Case of ChatGPT

Euclides Lourenco Chuma^{1,*} | Angela Maria Alves¹ | Gabriel Gomes de Oliveira¹

¹Researcher at Centro de Tecnologia da Informação Renato Archer, 13069-901 Campinas, Brazil

*Corresponding author: euclides.chuma@ieec.org

Received 01 February 2024; Revised 03 April 2024; Accepted 21 June 2024

Abstract: This work presents a comparative analysis between the responses generated by ChatGPT 3.5 (January 2023 version) and ChatGPT 4 (January 2024 version) in response to a set of questions about business. It serves as an update to the previously published work titled "Generative AI for Business Decision-Making: A Case Study with ChatGPT" by the authors, which utilized ChatGPT 3.5 in January 2023. The same methodology and questions from the previous work were applied, but this time using ChatGPT 4 in its January 2024 version. This approach allows us to offer insights into the evolution of the ChatGPT tool for business decision-making. Therefore, this work can be seen as a continuation of the previous work by the authors and will also serve as a basis for future comparative studies. The responses generated by ChatGPT 4 proved to be more detailed and organized compared to those generated by ChatGPT 3.5. However, in some questions, ChatGPT 3.5 provided answers regarding certain possibilities that were not emphasized in ChatGPT 4. Furthermore, ChatGPT 4's responses contained more up-to-date content. In all the cases analyzed, ChatGPT 4 remained an asset in the decision-making process, providing a comprehensive overview of the topics. However, it's essential to emphasize that ChatGPT 4 does not substitute for a business decision-making expert.

Keywords: Artificial Intelligence; Generative AI; ChatGPT; Decision-Making; Chatbot

1. Introduction

ChatGPT 3.5 (OpenAI, 2024) was introduced as a prototype in November 2022 by the OpenAI company. It swiftly attracted attention due to its comprehensive answers across various knowledge domains and its human-like text generation capabilities. ChatGPT was fine-tuned for human interaction using reinforcement learning with human feedback, a method that utilizes human demonstrations (likes or dislikes) to guide the model towards desired behavior. It is based on GPT-3.5, a language model trained to generate text.

A year ago, a few months after the release of ChatGPT 3.5, we authored an article titled "Generative AI for Business Decision-Making: A Case of ChatGPT" (Chuma & de Oliveira, 2023), where we tested the newly introduced ChatGPT 3.5 for business decision-making. In that study, we posed three questions to ChatGPT 3.5 (OpenAI, 2024) and analyzed its responses. In summary, our findings indicated that while ChatGPT 3.5 generated straightforward and valuable answers for decision-making, it could not fully replace the insights provided by a business decision-making expert.

The primary objective of the current study is to compare the responses provided by ChatGPT 3.5 one year ago with the responses offered by ChatGPT 4 (version 4) in its current state. By doing so, we aim to document the progress of generative artificial intelligence (AI) tools, such as the one utilized in ChatGPT, in the context of business decision-making. Concurrently, we intend to observe the potential impact of such tools on decision-making processes within the business domain.

At that time, there were limited studies available on the utilization of generative artificial intelligence, like the one employed by OpenAI's ChatGPT. Since then, numerous advancements, research efforts, and discussions have emerged. For instance, Abrokwah-Larbi (2023) examined the role of generative artificial intelligence, such as ChatGPT, in advancing customer personalization within business organizations. Ayinde *et al.* (2023) conducted an extensive literature review to investigate various viewpoints regarding the integration of ChatGPT into organizational management. Additionally, Raj *et al.* (2023) conducted a study focusing on elucidating the potential advantages for companies that adopt ChatGPT.

Over the past year, numerous competitors to OpenAI's ChatGPT have emerged, including Google Bard (Google, 2024), Meta Llama (Meta, 2024), Claude by Anthropic (Anthropic, 2024), and various other tools harnessing Generative AI. Nonetheless, OpenAI's ChatGPT continues to maintain its position as the most widely adopted choice (Humphries *et al.*, 2023).

Despite the considerable success of ChatGPT 3.5, OpenAI continued to enhance the tool, and in March 2023, they released ChatGPT 4. Several changes were made from ChatGPT 3.5 to ChatGPT 4, some of which include:

- Updated: ChatGPT 4 was last updated in April 2023, while ChatGPT 3.5 has a knowledge cutoff date for training data up until September 2021.
- Model Size and Complexity: ChatGPT 4 is more advanced, featuring a larger model size and greater complexity. Consequently, it has been trained on more data and possesses a better understanding of nuanced language, context, and complex queries compared to ChatGPT 3.5.
- Accuracy and Knowledge Base: ChatGPT 4 generally provides more accurate and relevant responses as it has been trained on a more extensive dataset, including more recent information. This equips it better to understand and respond to a broader range of topics with updated knowledge.
- Contextual Understanding: ChatGPT 4 demonstrates a refined ability to understand and maintain context over longer conversations, resulting in more coherent and contextually relevant responses, even in prolonged interactions.
- Language and Tone Adaptability: ChatGPT 4 exhibits improved adaptability in language style and tone, enabling it to match the user's style of communication more accurately, whether formal, casual, or technical.
- Handling Complex Instructions: With its advanced algorithms, ChatGPT 4 excels at following complex sets of instructions or queries, breaking them down into more manageable components and addressing each part more effectively.
- Error Reduction: While both versions are prone to mistakes, ChatGPT 4 is designed to reduce errors in understanding and responding to queries, resulting in fewer misunderstandings and overall, more accurate responses.
- Multitasking Abilities: ChatGPT 4 demonstrates improved multitasking abilities, effectively managing different threads of conversation or types of tasks within a single interaction.
- Creativity and Generation Capabilities: In tasks requiring creativity, such as writing, storytelling, or generating ideas, ChatGPT 4 displays a more nuanced and sophisticated approach, producing more diverse and creative outputs.
- Customization and Application: ChatGPT 4 offers enhanced customization options for specific applications, rendering it more suitable for a variety of professional, educational, and recreational uses.

- **Ethical and Safe Responses:** While both versions are designed to provide safe and ethical responses, ChatGPT 4 has an improved understanding of nuanced ethical considerations and is better equipped to navigate complex or sensitive topics.

In summary, ChatGPT 4 represents a significant advancement over ChatGPT 3.5, showcasing improvements in accuracy, context handling, multitasking, creativity, and overall interaction quality. These enhancements make it a more powerful tool for a wide range of applications.

In this study, we offer an analysis of the utilization of ChatGPT 4 as a decision-making tool in the business context, utilizing the same set of questions as in our previous study (Chuma, E. 2023), which employed ChatGPT 3.5..

2. Methodology

For the sake of sound comparative analysis, we maintained the same methodology used in our previous work (Chuma & de Oliveira, 2023): Logging into the platform (<https://chat.openai.com/chat>) automatically redirects users to a chat screen. The tests were conducted in ChatGPT 4 on January 22, 23, and 24, 2024, using a laptop computer located at CTI Renato Archer, Brazil. OpenAI did not release the technical details of GPT-4. Three questions were chosen to ask ChatGPT:

Question 1 pertained to the merger of large companies in Europe, a topic that consistently raises societal concerns regarding monopolies and job retention (Chiriac, 2021). Mergers of large companies have garnered interest from academics and professionals alike. While mergers and acquisitions continue to be scrutinized, numerous questions remain regarding the merger process (Cho & Chung, 2022).

Question 2 addressed the risk associated with investing in the stock market of a large oil company in a country with an emerging economy. Individuals engage in stock market investments for various purposes, as indicated by Nadeem *et al.* (2020). One primary motivation is securing financial future for retirement, as discussed by Clark-Murphy and Soutar (2004). Additionally, people also utilize stock market investments to facilitate asset accumulation, enhance overall well-being, and ensure more stable consumption patterns, as highlighted by Cole and Shastry (2009).

Question 3 delved into the factors impacting online shopping behavior, a topic previously examined by various scholars, including Mesatania (2022) who focused on the Shopee company.

3. Results and discussion

Question 1, posed to ChatGPT 4 on January 22, 2024, concerned the merger of two Swedish supermarket chains, ICA and COOP.

Question 1:

What is the impact of a merger between ICA and COOP Swedish supermarkets?

Reply by ChatGPT 4 (text is exactly as presented, without changes):

The merger between ICA and COOP, two major Swedish supermarket chains, appears to have significant impacts on the Swedish retail market. On one side, ICA, as the leading grocery retailer in Sweden, has announced an investment of approximately one billion Swedish kronor in 2024 to reduce regular prices in its stores. This investment primarily targets price reductions on essential products frequently purchased by consumers. This reflects a joint effort by ICA retailers to better meet customer needs and improve the pricing scenario in the long term, especially following a challenging year in 2023.

On the other hand, COOP, one of Sweden's main consumer cooperative organizations, has undergone several reorganizations and rebranding over the years. Currently, the COOP brand is used for small to medium-sized grocery stores, while the Stora COOP brand is for larger stores and

hypermarkets. Additionally, COOP introduced the X-tra brand for discount supermarkets, incorporating some former Netto stores.

These changes reflect the competitive dynamics in the Swedish retail sector, where major supermarket chains like ICA and COOP are continually adapting and innovating to meet market demands and consumer expectations. The merger between ICA and COOP can thus be seen as part of this ongoing dynamic, likely aimed at strengthening their market positions, improving operational efficiency, and offering more competitive pricing to attract and retain customers.

Reply by ChatGPT 3.5 (text is exactly as presented, without changes):

A merger between ICA and Coop, two of the largest supermarket chains in Sweden, would likely have a significant impact on the Swedish retail market. The combined company would likely become one of the largest retailers in Sweden, with a significant market share in the grocery and consumer goods market.

This would likely lead to increased competition for other retailers and suppliers, as the combined company would have more negotiating power when it comes to pricing and product offerings. Customers could also potentially see changes in product availability and prices.

Additionally, the merger could also lead to job losses as the company may look to cut costs by reducing redundancies in the company.

However, it should be noted that the merger would also have to go through regulatory scrutiny and be approved by the competition authorities, to ensure that the merger would not harm competition in the market.

Both versions of ChatGPT could identify the sizes and locations of companies, as well as their operating segments; therefore, there was nothing new in this regard.

The first observation pertains to the fact that ChatGPT 4 provided us with specific dates: "... one billion Swedish kronor in 2024 to reduce ... a challenging year in 2023". Data play a crucial role as an input and variable for business decision-makers. Therefore, in this aspect, ChatGPT offers advantages as a tool for decision-making.

The second observation is that while ChatGPT 3.5 warned about potential job losses associated with the merger, ChatGPT 4 simply disregarded this possibility. Additionally, ChatGPT 3.5 expressed concerns about the merger negatively affecting market competition, while ChatGPT 4 also ignored this concern.

The third observation is that ChatGPT 4 provided an explanation about the importance of the merger process: "These changes reflect the competitive dynamics in the Swedish retail sector, where major supermarket chains like ICA and COOP are continually adapting and innovating to meet market demands and consumer expectations..." In contrast, ChatGPT 3.5 did not offer an explanation regarding the importance of the merging process.

Therefore, upon comparing the results of ChatGPT 3.5 and ChatGPT 4, it is evident that ChatGPT serves as a better tool for business decision-makers due to its ability to provide temporal data and offer contextualization by explaining the reasons behind the merger process.

Question 2, which was posed to ChatGPT again on January 22, 2024, focused on the risks associated with investing in shares of Petrobras. Petrobras is a large Brazilian company in the oil sector, known for experiencing significant fluctuations in the price of its shares due to the Brazilian political and economic scenario.

Question 2:

What are the risks of investing in Petrobras company shares?

Reply by ChatGPT 4 (text is exactly as presented, without changes):

Investing in shares of Petrobras, like any investment in stocks, carries a variety of risks. Petrobras, being a Brazilian multinational corporation in the oil, natural gas, and energy industry, has specific risks related to its industry, market, and operational environment. Here are some key risks to consider:

1. **Market Volatility:** The oil and gas sector is highly sensitive to global supply and demand dynamics, geopolitical events, and environmental policies. Changes in these factors can lead to significant price volatility.

2. **Political and Regulatory Risks:** As a state-controlled entity, Petrobras is subject to political influence and changes in government policies. This can impact its operations, profitability, and strategic direction.

3. **Economic Risks:** Being based in Brazil, Petrobras is exposed to the economic conditions of the country. Fluctuations in the Brazilian economy, including currency exchange rates, inflation, and interest rates, can affect the company's financial performance.

4. **Environmental and Social Governance (ESG) Risks:** The oil and gas industry is under increasing scrutiny for its environmental impact. Companies like Petrobras need to navigate evolving environmental regulations and societal expectations regarding climate change and sustainability.

5. **Operational Risks:** These include risks associated with exploration and production activities, accidents, and technological challenges. Oil spills, accidents, and operational failures can lead to significant financial and reputational damage.

6. **Legal and Compliance Risks:** Petrobras has faced legal challenges and scandals in the past, such as corruption investigations. Such events can impact investor confidence and lead to financial penalties and reputational harm.

7. **Competition and Market Changes:** The energy sector is undergoing significant transformation with the shift towards renewable energy. Petrobras needs to adapt to these changes to remain competitive, which may involve substantial investment and strategic shifts.

8. **Debt Levels:** The level of debt and financial leverage of the company can be a risk, particularly if there are fluctuations in its revenue streams.

9. **Currency Exchange Risk:** As an international company, Petrobras deals in multiple currencies. Fluctuations in exchange rates can impact its financial results.

10. **Dependency on Commodity Prices:** The company's profitability is closely tied to the prices of oil and gas, which are subject to global market conditions.

It's important for investors to conduct thorough due diligence and consider these risks in the context of their overall investment strategy and risk tolerance. Additionally, staying informed about the latest developments in the industry and the company itself is crucial for managing investment risks effectively.

Reply by ChatGPT 3.5 (text is exactly as presented, without changes):

Petrobras is a state-controlled oil and gas company in Brazil, and investing in its shares may carry certain risks. Some of the key risks to consider when investing in Petrobras include:

Political risk: As a state-controlled company, Petrobras is subject to significant political influence and changes in government policies could impact the company's operations and financial performance.

Operational risk: The company's operations are primarily focused in Brazil, which poses a range of operational risks such as environmental, social and safety risks, along with the challenges of operating in deep-water and other technically demanding areas.

Corruption risk: In the past, Petrobras has been involved in significant corruption scandals. These have led to significant fines, legal proceedings and reputational risks, which may negatively impact the company's financial performance and share price.

Financial risk: Petrobras is heavily leveraged, and its credit rating is lower than investment grade, so the company's high debt levels and cash flow volatility could make it more vulnerable to economic downturns or unexpected changes in commodity prices.

Currency risk: A significant portion of Petrobras' revenue is generated in U.S. dollars, while its debt is primarily denominated in Brazilian reals. Changes in the exchange rate between these two currencies could impact the company's financial performance and share price.

It's important to note that past performance of the company or sector is not a guarantee of future performance and that the risks mentioned above are not exhaustive and should be considered along with other factors such as the overall market conditions and your personal investment profile.

It is evident that ChatGPT 4 provided a considerably more comprehensive response, highlighting several aspects that warrant consideration when evaluating an investment in Petrobras shares. However, it is noteworthy that in ChatGPT 3.5, the term "corruption" was explicitly emphasized, whereas in ChatGPT 4, one must attentively review the section titled "6. Legal and Compliance Risks" for pertinent information. Consequently, there has been a refinement in the wording of the text, rendering it less straightforward and adopting a more formal tone.

Furthermore, ChatGPT 4 also does not furnish a direct answer regarding whether one should endorse the actions of Petrobras as a company. Consequently, it does not serve as a substitute for a business decision-maker.

For historical documentation, on the same date that the question was posed to ChatGPT 4, the value of Petrobras shares on the New York Stock Exchange was approximately 15.70 USD (see Figure A.1 in *Appendix*). According to the CNN Business website (CNN Business, 2023), accessed on January 20, 2023 (one year ago), the "Stock Price Forecast" was as follows: "The 14 analysts offering 12-month price forecasts for Petroleo Brasileiro SA Petrobras have a median target of 13.75, with a high estimate of 16.50 and a low estimate of 8.45. The median estimate represents a +21.09% increase from the last price of 11.36." Therefore, the CNN Business website stock price forecast showed good performance.

Finally, when comparing the information provided by CNN Business and ChatGPT 4, it becomes evident that CNN Business offers significantly more data for making informed decisions than ChatGPT. Therefore, when it comes to practical business decisions regarding stock investments, ChatGPT 4 is primarily useful for educational or didactic purposes.

Question 3, posed to ChatGPT on January 22, 2024, inquired about the factors influencing online buying behavior.

Question 3:

What are the factors influencing online buying behavior?

Reply by ChatGPT 4 (text is exactly as presented, without changes):

Online buying behavior is influenced by a multitude of factors that can broadly be categorized into individual, product, website/technological, social, and environmental factors. Understanding these factors can help businesses tailor their online presence and marketing strategies to better meet the needs and preferences of their customers. Here are some key factors:

1. Individual Factors:

Personal Preferences and Taste: Individual likes, dislikes, and specific needs greatly influence online purchasing decisions.

Income and Spending Power: The financial status of an individual determines what they can afford and influences their buying choices.

Age and Life Stage: Different age groups and life stages have different needs, which influence their online shopping behavior.

Psychological Factors: These include attitudes, perceptions, personality, and lifestyle. For example, a tech-savvy person might be more inclined to shop online than someone who is not as comfortable with technology.

2. Product Factors:

Product Type: Certain products, like electronics and books, have historically been more successful in online markets compared to others like perishable goods.

Price: Competitive pricing can be a major draw for online shoppers.

Quality and Brand Reputation: High-quality products and well-known brands are more likely to be trusted and purchased online.

Availability and Variety: Online stores offering a wide range of products and exclusive items can attract more customers.

3. Website/Technological Factors:

Ease of Use and Navigation: A user-friendly website encourages more online purchases.

Website Design and Aesthetics: An attractive and professional-looking website can positively influence buying decisions.

Security and Privacy: Assurance of secure transactions and privacy protection is critical.

Mobile Compatibility: With the increasing use of smartphones, mobile-friendly websites and apps are essential.

4. Social Factors:

Social Media Influence: Recommendations and reviews on social media platforms can significantly impact buying decisions.

Peer Influence and Word of Mouth: Opinions and experiences shared by friends and family often sway purchasing decisions.

Influencer Marketing: Endorsements by influencers can attract their followers to certain products or brands.

5. Environmental Factors:

Economic Conditions: General economic environment, like a recession or boom, can influence consumer spending habits.

Cultural Trends: Cultural shifts, like the growing focus on sustainability, can affect buying behavior.

Legal and Regulatory Environment: Laws and regulations governing online transactions, data privacy, etc., can impact consumer trust and willingness to purchase online.

6. Marketing and Promotional Factors:

Advertising: Effective online advertising can increase product awareness and interest.

Sales Promotions: Discounts, coupons, and sales are powerful incentives for online purchases.

Customer Reviews and Ratings: Positive reviews and high ratings can significantly boost the attractiveness of a product or service.

Understanding these factors can help businesses develop more effective strategies to attract and retain customers in the online marketplace. For consumers, being aware of these influences can lead to more informed and satisfactory purchasing decisions.

Reply by ChatGPT 4 (text is exactly as presented, without changes):

There are several factors that can influence online buying behavior, including:

1. Convenience: The ease and convenience of shopping online can be a major factor in influencing buying behavior.

2. Price: Online shoppers can easily compare prices and find deals, which can influence their buying behavior.

3. Product reviews and ratings: The ability to read reviews and ratings from other shoppers can influence a person's decision to buy a product.

4. Product selection: Online retailers often have a wider selection of products than brick-and-mortar stores, which can influence buying behavior.

5. Social influence: Social media and online communities can influence buying behavior by highlighting popular products and trends.

6. Personalization: Many e-commerce sites now offer personalized recommendations based on a shopper's browsing and buying history, which can influence buying behavior.

7. Trust and security: Trust in the online retailer and security of the website can also play a role in influencing online buying behavior.

8. Marketing and advertising: Online marketing and advertising can also influence buying behavior by showcasing products, offering discounts and promotions

ChatGPT 4 provided a more extensive response, albeit with a reduced number of main items (6 items in ChatGPT 4 compared to 8 items in ChatGPT 3.5). Notably, ChatGPT 4 incorporated subitems within its response, whereas ChatGPT 3.5 did not. Consequently, it appears that ChatGPT 4 can present results in a more structured format, enhancing the user's educational experience.

The response provided by ChatGPT 4 listed 6 factors with 21 subitems, which, while comprehensive, may still lack depth. Compared to other studies, such as the article by Mesatania (2022), which identified 23 factors for analysis, we have quantitatively determined that ChatGPT 4 is not currently a suitable tool to serve as the sole source of advice for making business decisions.

4. Conclusion

This study presents a comparative analysis between ChatGPT 3.5, the January 2023 version, and ChatGPT 4, the January 2024 version, as tools for decision-making in business.

In the test, three questions were posed to ChatGPT 3.5 in January 2023 and ChatGPT 4 in January 2024, and their results were analyzed. ChatGPT 4, in January 2024, demonstrated improvements compared to ChatGPT 3.5 in January 2023. The responses generated by ChatGPT 4 were more detailed and organized than those of ChatGPT 3.5. Additionally, ChatGPT 4's replies featured more up-to-date content. In all cases analyzed, ChatGPT 4 remained an asset in the decision-making process by providing an overview of the topic.

It's important to note that, in its current version, ChatGPT 4 does not replace a business decision-making expert. However, ChatGPT is evolving and can serve as a useful tool for business decision-making experts to enhance productivity and free up time for other activities.

The utility of tools like ChatGPT has raised doubts regarding their actual usefulness in various office professional tasks. However, we are now confident that tools like ChatGPT are here to enhance productivity and, in some instances, potentially replace professionals, which in turn raises ethical questions about their usage. There is also a significant debate surrounding the copyright of content used for training AI tools such as ChatGPT.

Appendix

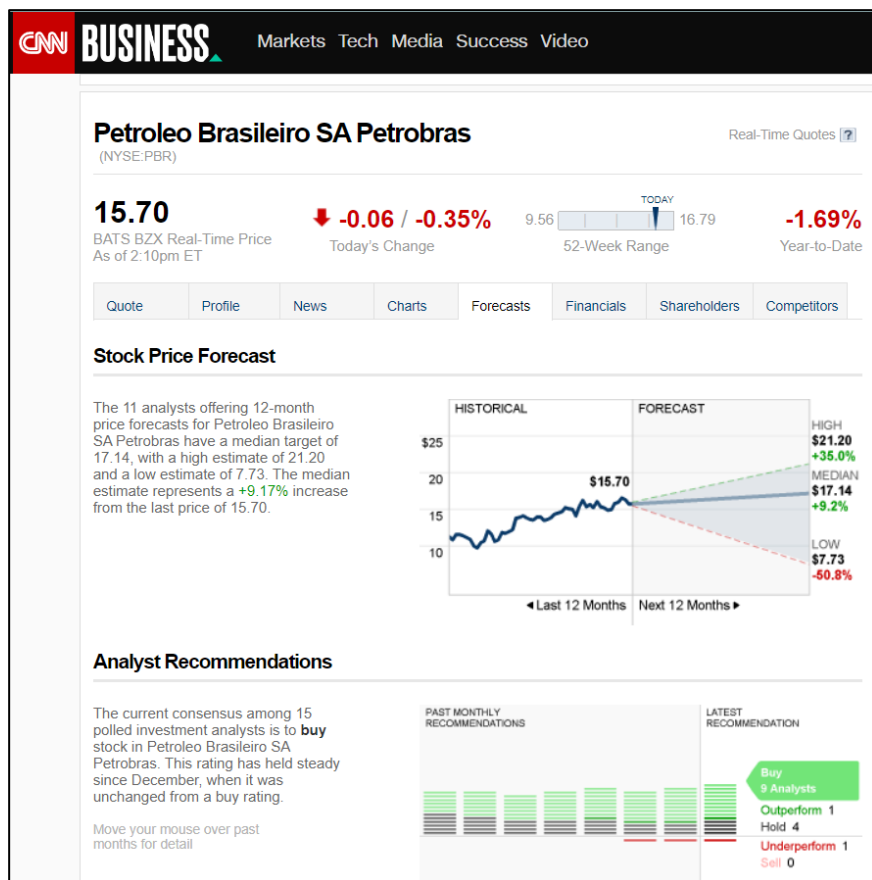


Fig A.1. Screenshot of CNN Business website about Petrobras (CNN Business, 2024)

Originality statement

The authors declare that the work reported in the current study is original, and no content (concept, text, tables, illustrations, data, etc.) supposed to be produced/generated/estimated/written/collected by the authors in the current study is partially or completely generated through Artificial Intelligence (AI) or any AI-based software.

This work is a continuation of the previous study "Generative AI for Business Decision-Making: A Case of ChatGPT" (Chuma & de Oliveira, 2023), and therefore, some texts were copied to enhance the reader's understanding. As this is a work where the central subject is textual content generated by a generative AI, some texts were reproduced exactly as provided by the AI. However, the analyses, comments, and conclusions are not produced by any type of AI.

References

- Abrokwah-Larbi, K. (2023). The role of generative artificial intelligence (GAI) in customer personalisation (CP) development in SMEs: a theoretical framework and research propositions. *Industrial Artificial Intelligence*, 1 (11). <https://doi.org/10.1007/s44244-023-00012-4>
- Anthropic (2024). *Claude*. <https://www.anthropic.com/product>
- Ayinde, L. (2023). ChatGPT as an important tool in organizational management: A review of the literature, *Business Information Review*, 40(3), 137-149. <https://doi.org/10.1177/02663821231187991>
- Chiriac, I. (2021). The Impact of Economy on Mergers & Acquisitions in European Markets. *Journal of Financial Studies and Research*. <https://doi.org/10.5171/2021.206635>
- Cho, S. & Chung, C. Y. (2022) Review of the Literature on Merger Waves. *Journal of Risk and Financial Management*, 15(10), 432. <https://doi.org/10.3390/jrfm15100432>
- Chuma, E. L., & de Oliveira, G. G. (2023). Generative AI for Business Decision-Making: A Case of ChatGPT, *Management Science and Business Decisions*, 5(1), 5-11. <https://doi.org/10.52812/msbd.63>
- Clark-Murphy, M., & Soutar, G. N. (2004). What individual investors value: Some Australian evidence. *Journal of Economic Psychology*, 25(4), 539–555. [https://doi.org/10.1016/s0167-4870\(03\)00056-4](https://doi.org/10.1016/s0167-4870(03)00056-4)
- CNN Business. (2024). *Petroleo Brasileiro SA Petrobras*. CNN Business. <https://money.cnn.com/quote/forecast/forecast.html?symb=PBR> (accessed on January 22, 2024)
- Cole, S. A., & Shastry, G. K. (2009). *Smart Money: The Effect of Education, Cognitive Ability, and Financial Literacy on Financial Market Participation*. HBS Working Paper Number: 09-071. Boston, MA: Harvard Business School.
- Google. (2024). *Bard*. <https://bard.google.com/>
- Humphries, E. M., Wright, C., Hoffman, A. H., Savonen, C., & Leek, J. T. (2023, September 27). *What's the best chatbot for me? Researchers put LLMs through their paces*. Nature. <https://www.nature.com/articles/d41586-023-03023-4>
- Mesatania, C. P. (2022) Factors Influencing Online Buying Behavior: A Case of Shopee Customers, *Management Science and Business Decisions*, 2(1), 19-30. <https://doi.org/10.52812/msbd.34>
- Meta. (2024). *Llama*. <https://ai.meta.com/llama/>
- Nadeem, M. A., Qamar, M. A. J., Nazir, M. S., Ahmad, I., Timoshin, A., & Shehzad, K. (2020). How investors attitudes shape stock market participation in the presence of financial self-efficacy. *Frontiers in Psychology*, 11, 553351. <https://doi.org/10.3389/fpsyg.2020.553351>
- OpenAI. (2024). *ChatGPT*. <https://chat.openai.com/>
- Raj, R., Singh, A., Kumar, V., & Verma, P. (2023). Analyzing the potential benefits and use cases of ChatGPT as a tool for improving the efficiency and effectiveness of business operations. *BenchCouncil Transactions on Benchmarks, Standards and Evaluations*, 3(3), 100140. <https://doi.org/10.1016/j.tbench.2023.100140>