

Exploration on the Application of ChatGPT in Corporate Financial Management

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Abstract: The report of the 20th National Congress of the Communist Party of China proposed to accelerate the development of the digital economy and promote the deep integration of the digital economy and the real economy. With the continuous development of generative artificial intelligence technologies such as ChatGPT, the financial industry has been profoundly affected and impacted. This article mainly combines the specific characteristics of each link of financial management, taking a listed company as an example, to explore the feasibility of the practical application of ChatGPT in specific financial management links such as financial forecasting, financial decision-making, financial control and financial analysis. After research, it is concluded that, ChatGPT can generate financial forecast reports and decision-making suggestions based on the provided data, identify and evaluate financial risks, and assist accounting personnel in conducting intelligent financial analysis. Its specific application in financial management will undoubtedly contribute to the digital transformation of enterprises.

Keywords: Financial Management Link; ChatGPT; Application Research.

1. Introduction

"Accelerating digital development and building Digital China" is a clear requirement of my country's "14th Five-Year Plan". In November 2022, ChatGPT (ChatGenerativePre-TrainedTransformer) was launched and quickly set off an upsurge of discussion around the world. All are facing unprecedented challenges. Intelligence is the only way for enterprises to transform digitally. The arrival of ChatGPT means that digital transformation of enterprises is inevitable. The accounting industry will undoubtedly be impacted and affected in all aspects, but modern accounting is constantly developing in the direction of big data and intelligence. The launch of ChatGPT has become a driving force for transformation, allowing it to transform and optimize on the original basis, creating new functions such as intelligent financial forecasting and decision-making, automated risk prevention and control systems, and database construction jointly promote the digital transformation and upgrading of enterprises based on human-machine collaboration. This article will start from the characteristics of ChatGPT and the core technology it uses and the nature of financial management links. Taking a listed company as an example to use ChatGPT for testing, it will explore how ChatGPT, an AI product, can be effectively used in all aspects of financial management, especially financial analysis. It is expected that ChatGPT and its core technology AI products and AI technology will have a wider influence in the future accounting field and provide inexhaustible impetus for the intelligent transformation of accounting and the development of enterprise digital transformation.

1.1. Relevant Literature Review

Chen Anping and Zhao Yashen (2023) started from the impact of ChatGPT on financial analysis and analyzed its advantages in financial analysis, the challenges it may bring, and the ethical dilemmas it may cause. Li Xin and Qi Si (2023) focused on the analysis of ChatGPT's possible impact on financial management of universities and put forward

targeted countermeasures and suggestions. Yang Tingting (2024) mainly discussed the application prospects of ChatGPT in the accounting industry and analyzed the practical challenges faced by its application. Tan Yun and Zhang Songlin (2023) discovered through discussion that ChatGPT can be applied in accounting fields such as financial analysis, tax planning, and financial consulting. Qin Tao, Du Shangheng, Chang Yuanyuan, and Wang Chenxu (2024) discussed the problems existing in its typical applications and the corresponding solutions.

Arslan S (2024) Focus on the role of ChatGPT in modern nutrition. Yudong (2023) discussed the application of ChatGPT in the field of intelligent accounting. Abeysekera I (2024) discussed how ChatGPT can be used for topic assessment in finance course units. Joanna (Jingwen) Zhao; Xinruo Wang (2023) discussed how to use ChatGPT to simplify and reshape accounting processes.

At present, many scholars at home and abroad have proposed theoretical research and application plans of ChatGPT in certain fields. However, research on the application of ChatGPT in the field of finance and accounting still focuses on analyzing the impact of ChatGPT on certain aspects such as financial analysis. It lacks practical application analysis in financial work and lacks analysis of all scenarios based on Chat-GPT application. Therefore, this article We will focus on exploring the specific application of ChatGPT in financial management.

2. The Application Concept of ChatGPT in Corporate Financial Management

2.1. Feasibility of ChatGPT in Financial Forecasting

Financial forecasts are generally analyzed from both qualitative and quantitative perspectives. Qualitative forecasting method is a method that uses intuitive materials and relies on personal subjective judgment and

comprehensive analysis ability to predict the future status and trends of things. [1] This method is generally used when the company lacks complete and accurate historical data. Quantitative forecasting method is a method that establishes a mathematical model to predict based on the quantitative relationship between variables.[2]Corporate financial analysts usually conduct quantitative analysis based on corporate financial statements and other data. ChatGPT is essentially a large natural language processing model driven by big data, big computing power, and strong algorithms. It can conduct natural language conversations. When making financial forecasts, financial analysts only need to upload the company's financial data to ChatGPT. Reports and related internal data, it can identify key business indicators, changing trends and patterns based on the data provided, and make reasonable predictions and analyzes to achieve the purpose of simplifying financial work. At the same time, using ChatGPT for financial forecasting can also avoid subjectivity. Bias or missing important data. However, it should be noted that when uploading corporate data to ChatGPT, it is best to have professional and technical personnel perform the operation to prevent the leakage of corporate privacy data due to improper uploading methods or unauthorized intrusions, jeopardizing corporate information security.

2.2. Exploration of the Application of ChatGPT in Financial Decision-making

The most commonly used methods for financial decision-making mainly include the optimization comparison method and the mathematical model method. When using the optimization comparison method, the economic benefits generated by various options are often compared and analyzed, and selections are made based on the comparison results. [3]However, completing the entire financial decision-making process in a traditional manual way will undoubtedly invest a lot of manpower, material and financial resources, which may lead to inefficient resource allocation of the company. Furthermore, manual analysis and calculation may also cause subjective bias and Mistakes result in reduced accuracy of final analysis results and reports.

Therefore, it is necessary to apply big data and artificial intelligence in financial decision-making. However, the current development of enterprise intelligent finance is still in its infancy. Intelligent finance is mostly used in financial analysis visualization and other aspects, but is rarely used in financial decision-making. Even if it is available, it only uses a simple learning model and lacks a deep learning model. ChatGPT (Chat Generative Pre-trained Trans-former), as an interactive artificial intelligence system based on deep learning and natural language processing technology, can conduct self-learning and training on the provided data, and calculate key financial indicators and trend predictions to The conversational method generates valuable suggestions for decision-makers. In addition, ChatGPT can also provide many non-financial data suggestions, because the sources of conversations it generates may come from various networks and social media, market research and consumer feedback. It is helpful for financial decision-makers to achieve comprehensive internal and external analysis, evaluate the operating benefits of various plans from multiple dimensions, and make optimal decisions. But precisely because of this, decision-makers must pay attention to the quality of the information when using this information, and cannot blindly use it to avoid decision-making errors. [4]

2.3. Feasibility of ChatGPT in Financial Budgeting

ChatGPT can play a corresponding role in the financial budget process based on specific steps, as follows:

First of all, determine the financial budget plan and indicators based on the company's financial decision-making, combined with the current business conditions and production capacity status, and under the relevant national policy requirements, rationally use various scientific budget methods to determine the main plan indicators suitable for the company's sustainable operation and development. , so that enterprises can maximize their benefits. During this process, you can collect suggestions on historical data, industry standards, budgets for similar projects, etc. through conversations with ChatGPT.

Secondly, enterprises must rationally allocate resources to meet the requirements of business objectives. In terms of corporate capital balance, they must maintain a balance of financial revenue and expenditure, maintain a balance of cash inflows and outflows, and maintain the total amount of fixed funds of the enterprise at At a certain level, the entire process of production and operation of the enterprise is planned, and procurement and production are reasonably carried out according to orders, so as to avoid large accumulation of inventory and excessive occupation of funds, which will reduce the enterprise's resource utilization rate and asset turnover rate. ChatGPT can help financial personnel modify and formulate financial goals and plans through real-time interaction with corporate financial teams, and provide optimization suggestions. It can provide targeted suggestions, such as adjusting product pricing, optimizing cost structure, etc., based on the company's financial status, market trends and other factors to achieve financial goals. [5]

Finally, with the overall operating efficiency of the enterprise as the goal, balance the various indicators of the enterprise during the planning period, prepare a reasonable planning form, and check and verify whether the relevant planning indicators are closely connected, coordinated and balanced. The preparation process of financial budget is actually the process of determining plan indicators and balancing them. In this process, ChatGPT can predict potential risk factors, such as currency exchange rate fluctuations, rising raw material prices, etc., based on the company's financial data and market conditions, and provide corresponding risk management suggestions, which can help the company better plan its future finances. status and optimize resource allocation. It also enables companies to ensure financial security in the process of balancing indicators and preparing budgets.

2.4. Analysis of the Application of ChatGPT in Financial Control

ChatGPT plays an important role in many aspects of financial control: in terms of report generation and data verification, ChatGPT can automatically generate financial reports and analysis, which not only saves time, but also reduces errors that may occur when manually entering data. In terms of internal audit, by analyzing transaction records and financial statements, it helps companies check whether financial operations comply with legal and regulatory requirements. By quickly screening out areas that require further review from large amounts of data, it can identify potential irregular operations or abnormal transactions, which

has a negative impact on the company. Internal audit plays a supporting role. In terms of risk management and control, ChatGPT can analyze historical data and market trends to help identify and evaluate potential financial risks, such as credit risk, market risk, etc. This helps businesses take preventive measures to avoid or reduce losses. [6]

2.5. Research on the Application of ChatGPT in Financial Analysis

(1) Evolution of financial analysis methods

Traditional financial ratio analysis: Traditional financial analysis mainly evaluates the financial status of a company by calculating financial ratios. Commonly used financial ratios include profit margins, asset turnover rates, debt ratios, etc. Ratio analysis and trend analysis can help analysts understand the company's profitability, solvency, operating efficiency, etc.

Financial statement analysis: With the development of modern technology and the continuous improvement of the transparency and standardization of financial statements, financial statement analysis has become an important method of financial analysis. Combining the use of spreadsheets and financial software on the basis of traditional ratio analysis can help analysts gain a more comprehensive understanding of the company's financial status and operating conditions. The DuPont analysis method, improved DuPont analysis method, Wall proportion scoring method, EVA method or REVA method can be used for analysis.

Comprehensive financial analysis: The Harvard analysis framework is proposed, so that companies are no longer limited to internal financial data when analyzing, but should also consider non-financial data, combined with the PEST model, five forces model, SWOT model, etc. to comprehensively analyze corporate strategy, market competitiveness, environment, etc. In addition, with the development of big data and smart finance, industry-finance integration and big data financial analysis are gradually being widely used. Data acquisition is faster and data processing is more efficient, which also makes the results of financial analysis more efficient. Timeliness and accuracy make the analysis dimension broader. [7]

(2) Analysis of the applicability of ChatGPT in financial analysis

As financial analysis becomes more and more multi-dimensional, automated and intelligent, ChatGPT will be widely used in the field of financial analysis in the foreseeable

future. It has strong independent learning capabilities and can conduct independent learning and prediction based on input financial historical data and prediction models. Training can not only calculate financial indicators such as interest coverage ratio and quick ratio, but also provide non-financial data on product feedback, market trends, etc. by collecting various data on the Internet and social media, and provide multi-dimensional analysis functions.[8]

3. Application Test of the Financial Management Link of a Listed Wine Company based on ChatGPT

3.1. Test Objectives

This section will take the financial analysis of a listed wine company as an example to explore the feasibility of applying ChatGPT to the financial management process, and further evaluate the practical application value of ChatGPT for the financial analysis system. We hope to solve the following problems through testing: first, how to apply ChatGPT to all aspects of financial management, especially financial analysis; second, test the difference between ChatGPT-3.5 and ChatGPT-4 in financial analysis; third, if its practical application brings value and risks to the enterprise in the financial management process of the enterprise.

3.2. Test Tools

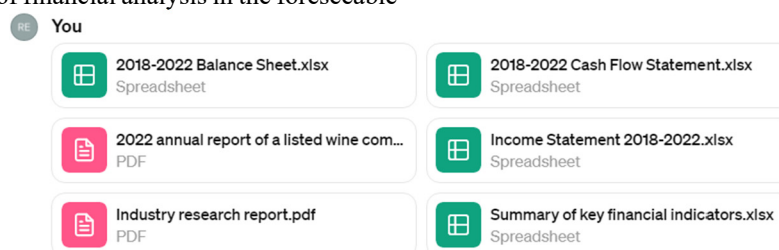
First, this article will use Microsoft Office Excel to simply organize the financial statements of the case company and store the data for subsequent use. Secondly, GPT-3.5 and GPT-4 are used to generate suggestions for each link of financial management and analyze financial statements.

3.3. Test Steps

3.3.1. Prepare Test Related Materials

Including the case company's 2022 annual report pdf, 2018-2022 financial statements, industry research reports pdf and a summary table of main financial indicators from 2018-2022. The table includes profitability indicators, growth capacity indicators, income quality indicators, financial risk indicators and operating capabilities. Indicators, it should be noted that the suffix of all tables should be in .xlsx format, otherwise GPT will not recognize it.

3.3.2. Generate Financial Forecasts and Decision-making Suggestions



If you are responsible for corporate financial forecasting, you need to make financial forecasts for the company based on the provided information, including the following aspects: 1. Revenue forecast: Based on historical sales revenue data, industry trends and market analysis, predict the company's possible gains in the future. Sales revenue. 2. Expenditure forecast: Analyze the company's possible cost expenditures in the future based on the company's historical operating cost data. 3. Profit forecast: By forecasting the company's income and expenses, we further predict the company's net profit to evaluate the company's profitability. 4. Cash flow forecast: Determine whether the company has sufficient liquidity by predicting the company's cash inflows and outflows in the future. 5. Investment forecast: predict the company's future capital expenditure and investment forecast through analysis of past investment-related data.

Figure 1. ChatGPT-4 is asked to make a financial forecast for the case company



ChatGPT

Based on the documents you provided, including the "Summary of Key Financial Indicators.xlsx," industry research reports, balance sheets, cash flow statements, income statements, and the detailed analysis in the industry research reports, we will conduct financial forecasts for the company. This will cover revenue forecasts, expense forecasts, profit forecasts, cash flow forecasts, investment forecasts, and will conclude with a summary.

1. Revenue Forecast

Based on the overall performance of the food and beverage sector mentioned in the industry research reports, and the market situation of specific sub-sectors (such as baijiu and beer), considering the robust performance of high-end liquor brands like Maotai and Wuliangye and the increased demand for business banquets during economic recovery, it is expected that the company's sales revenue will show a stable growth trend in the near future. Considering industry trends and the company's historical sales data, the revenue growth rate is expected to be between 5%-10%.

2. Expense Forecast

Based on the data from the balance sheet and cash flow statement, combined with the analysis of raw material price trends in the industry research reports, it is expected that the company's cost expenditures will be affected by changes in raw material prices and an expansion in production scale. Assuming the company offsets some of the pressure from rising raw material costs by improving production efficiency and optimizing cost structures, the growth rate of cost expenditures is expected to be slightly lower than that of revenue, approximately between 4%-8%.

Figure 2. Financial forecast report prepared by ChatGPT-4 (a)

First, upload all the relevant information prepared in ChatGPT-4 mode, and ask it to make financial forecasts for the case company from five aspects: revenue forecast, expenditure forecast, profit forecast, cash flow forecast, and investment forecast, and require no less than 2,000 words, as shown in Figure 1.

As shown in Figures 2 and 3, in the financial forecast report it wrote, ChatGPT-4 made financial forecasts from five aspects: revenue forecast, expenditure forecast, profit forecast, cash flow forecast, and investment forecast according to the question requirements. The total number of words is close to 1,000 words, and the following summary and suggestions are made on the financial forecast of the case company: "In summary, taking into account industry trends, market demand and the company's historical performance, it is expected that

the company will continue to achieve revenue growth in the future. Through effective cost control, the company will further enhance its net profit. At the same time, the company will maintain a good cash flow position to support its daily operations and strategic investments to achieve long-term sustainable development. It should be noted that these forecasts are based on current market conditions and The company's historical data and actual results may be affected by macroeconomic changes, industry competition, and policy environment." Judging from the forecast report it wrote, ChatGPT can analyze multi-dimensional results to obtain forecast results, but the description is not detailed enough and is only simple. The data change trends are described without delving into the reasons behind the changes.

raw material price trends in the industry research reports, it is expected that the company's cost expenditures will be affected by changes in raw material prices and an expansion in production scale. Assuming the company offsets some of the pressure from rising raw material costs by improving production efficiency and optimizing cost structures, the growth rate of cost expenditures is expected to be slightly lower than that of revenue, approximately between 4%-8%.

3. Profit Forecast

Considering the expected revenue growth and cost control, the company's net profit is expected to show a relatively positive growth trend. If revenue growth is stable and cost control is effective, the net profit growth rate is likely to be between 6%-12%.

4. Cash Flow Forecast

Considering the company's competitive position and market share within the industry, as well as stable cash inflows over the past few years, the company is expected to continue to maintain a good cash flow status. Especially with stable demand in the high-end baijiu and beer markets, the company's cash inflows are expected to remain stable, ensuring sufficient working capital to support day-to-day operations and future development.

5. Investment Forecast

Based on the industry research reports and the company's historical investment data, the company's future capital expenditures are expected to be focused on product research and development, market expansion, and capacity expansion. Given the trend towards premiumization in the industry and the room for market recovery, the company is likely to increase investments in these areas to support long-term growth.



Figure 3. Financial forecast report prepared by ChatGPT-4 (b)



ChatGPT

Based on the information provided, particularly the industry research reports and the financial data of a listed liquor company, here are some suggestions for financial decisions for the enterprise:

1. Investment Decisions

- **Project Selection:** Based on industry research reports and financial data, it is recommended to focus investments on the production and sales of high-end baijiu and specialty liquor products, considering the trend of consumption upgrading and the high concentration of the industry. Investing in high-quality, branded products can enhance market competitiveness and brand influence.
- **Innovation and R&D:** Continue to invest in product research and development and technological innovation to enhance product quality and differentiation, while exploring intelligent manufacturing and digital transformation to improve production efficiency and reduce costs.

2. Financing Decisions

- **Sources of Funds:** Based on financial data assessment, it is advisable to balance the use of internal funds and external financing, with a preference for low-cost financing options such as bank loans and bond issuance. If the company's debt-to-equity ratio is low, consider increasing the proportion of debt financing to reduce capital costs.
- **Equity Financing:** If there is a need to expand capital size, consider equity financing, but be aware of the risk of diluting existing shareholders' rights. Choose an appropriate time for equity financing to minimize the impact on the company's stock price.

3. Working Capital Management

- **Cash Flow Management:** Optimize accounts receivable and inventory management, shorten the cash conversion cycle, reduce inventory backlog, and improve the efficiency of fund use. Also, arrange the payment timing of accounts payable appropriately to maintain a good cash flow situation.
- **Cost Control:** Continuously optimize and control costs through procurement management and production efficiency improvements to reduce production and operational costs.

4. Profit Distribution Decisions

- **Dividend Policy:** Based on the company's profitability and future development needs, formulate a reasonable dividend distribution policy. For companies with stable profits and sufficient cash flow, consider increasing the dividend payout ratio to enhance investor returns.
- **Profit Retention:** Retain a portion of the profits for future development, especially for investments in continuous project development, market expansion, technological innovation, and other long-term development needs.

Figure 4. GPT's advice for business financial decisions

Secondly, based on the results of the financial forecast, let GPT generate suggestions for corporate financial decisions from the aspects of investment decisions, financing decisions, working capital management, and profit distribution decisions. As shown in Figure 4, judging from the answers of ChatGPT, the suggestions it generates are basically reasonable and take into account the financial status of the company and the development of the industry, and can be used as a reference for corporate financial decisions.

3.3.3. Financial Risk Identification and Assessment Testing

As one of the important components of financial control, risk management and control is particularly important to identify and evaluate unknown risks. Let ChatGPT-4 analyze the four aspects of credit risk, liquidity risk, market risk, and operational risk based on the information provided. Identify and assess case company financial risks. As shown in Figure 5, ChatGPT-4 made a reasonable assessment of the financial risks of the case company as required and made corresponding recommendations. Its analysis results comprehensively considered the internal and external financial risks faced by the company. The analysis is relatively comprehensive, but combined with the specific data analysis part of the financial statements is less reflected, and there is less connection between the analysis of financial data and non-financial data.

3.3.4. Analysis of the Role of ChatGPT-3.5 and ChatGPT-4 in Financial Analysis

In order to test the difference between ChatGPT3.5 and ChatGPT-4 in financial analysis, let them conduct in-depth

financial analysis of the case company based on the provided data in both modes, including but not limited to the following aspects: Profitability analysis: From Analyze profitability in terms of gross profit margin, return on net assets, net sales profit margin, cost and expense profit margin, etc. Growth capability analysis: Analyze from the aspects of operating income growth rate, net profit growth rate, etc. Operational capacity analysis: inventory, total assets, accounts receivable turnover days and turnover rate analysis. Solvency analysis: long-term debt solvency and short-term debt solvency analysis. And ask them to analyze the reasons behind the data changes.

The results obtained are shown in Figure 6 and Figure 7, 8 Under the premise of providing the same information and questions, both can conduct financial analysis on the case company from the above aspects, but ChatGPT3.5 only makes a simple analysis of the data change trend. The development of relevant aspects is described, and the analysis is relatively simple. Compared with ChatGPT3.5, ChatGPT4 not only analyzes the trends and reflections of data changes, but also digs into the specific reasons behind the data changes based on the industry background of the case company. It shows that it has stronger contextual understanding in the field of financial analysis, which means it can more accurately understand complex financial statements, market analysis, and financial terminology. Not only that, ChatGPT-4 also demonstrates more advanced logical reasoning capabilities and can better handle financial data comparison, trend analysis and prediction. ChatGPT-4 can provide more reasonable and reliable analysis when dealing with complex

tasks involving financial forecasting and risk assessment. However, it is worth mentioning that ChatGPT cannot directly access or process real-time data when used, and it is prone to errors when extracting and analyzing more complex

tabular data. The tabular data needs to be processed in advance, and the table can be converted to text mode if necessary. Upload to GPT for analysis.

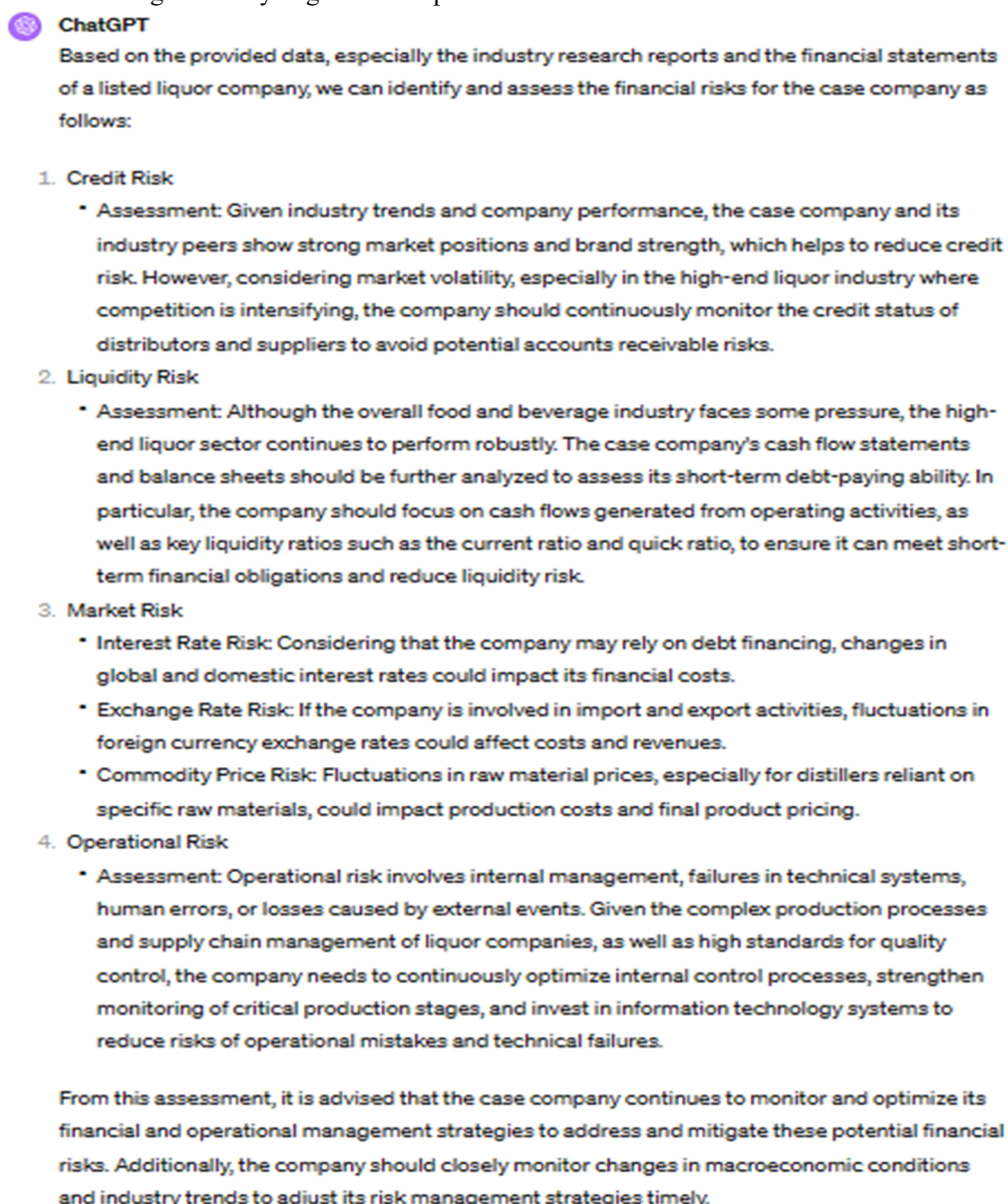


Figure 5. ChatGPT-4 identifies and assesses the financial risks of case companies

But it demonstrates a greater ability to understand and interpret the context, historical trends, and underlying meaning of data. This is useful for users who need to deeply analyze historical financial data to predict future trends. Overall, ChatGPT-4's improvements in the field of financial analysis make it a more powerful tool for financial professionals and users interested in financial analysis. It can provide more accurate, in-depth and comprehensive analysis and suggestions to help users make more informed financial decisions.

3.4. Test Results

(1) Summary of test results.

This test uses ChatGPT in financial forecasting, financial decision-making, financial control and financial analysis respectively, and the test results are different. First, judging from the results, when asked to write a financial forecast report, the output content basically met the requirements of the question, but the word count did not meet the standard.

Secondly, when asked to provide suggestions for corporate financial decisions based on financial forecast results, GPT's answers took into account the corporate financial status and industry development background, and indeed have certain reference significance for corporate financial decisions. [9] When asked to identify and assess the financial risks of the enterprise based on the provided information, the summary of the financial risks faced by the enterprise internally and externally was more comprehensive, but the combined analysis of financial data and non-financial data was less. Finally, ChatGPT-3.5 and 4.0 versions were used to conduct financial analysis on the case company. The results showed that 4.0 was more efficient and more comprehensive in financial analysis, but it was prone to errors when extracting table data for complex calculations, which needs to be done in advance. Good form sorting and other work.



ChatGPT

Profitability Analysis:

- **Gross Profit Margin:** The gross profit margin has remained stable over the past five years, maintaining at a high level, indicating the company's strong production and sales capabilities, and its ability to effectively control production costs.
- **Return on Equity (ROE):** ROE has remained stable or slightly increased over the past five years, indicating the company's efficient utilization of assets, and its ability to generate good returns for shareholders.
- **Net Profit Margin:** The net profit margin has remained stable or slightly increased over the past five years, indicating the company's effective control of expenses during the sales process, achieving a higher sales profit margin.
- **Cost Expense Profit Margin:** The cost expense profit margin has remained stable over the past five years, indicating the company's effective control of costs and expenses, achieving a good profit margin.

Growth Capability Analysis:

- **Revenue Growth Rate:** Revenue has shown stable growth over the past five years, with a relatively steady growth rate, indicating the company's steady business development.
- **Net Profit Growth Rate:** Net profit has also maintained stable growth over the past five years, with a growth rate similar to that of revenue, indicating that the company can effectively control costs while increasing revenue, achieving good profit growth.

Operating Capability Analysis:

- **Inventory Turnover Days:** Inventory turnover days have fluctuated over the past five years, but the overall trend is downward, indicating that the company's inventory turnover speed is gradually increasing, and the efficiency of fund turnover is improving.
- **Accounts Receivable Turnover Days:** Accounts receivable turnover days have fluctuated over the past five years, with no clear overall trend, indicating potential collection risks or adjustments to customer credit policies by the company.
- **Total Asset Turnover:** The total asset turnover has remained relatively stable over the past five years, indicating that the company's overall asset utilization efficiency remains stable.

Debt Repayment Capability Analysis:

- **Current Ratio:** The current ratio has remained above 3 over the past five years, indicating the company's strong short-term debt repayment ability to meet the demand for short-term debt repayment.
- **Debt-to-Asset Ratio:** The debt-to-asset ratio has remained at a relatively low level over the past five years, indicating that the company's asset-liability structure is relatively robust, with low financial risk.

Overall, the case company demonstrates robust performance in profitability, growth capability, operating capability, and debt repayment capability, indicating good financial condition and development potential. However, special attention needs to be paid to accounts receivable turnover and whether inventory turnover efficiency can be further improved.

Figure 6. ChatGPT3.5 analysis results



ChatGPT

Profitability Analysis:

1. **Gross Margin:** The company's gross margin has shown a steady increase in recent years, rising from 73.8% in 2018 to 83.42% in 2022. This change indicates that the company has been successful in controlling raw material costs and setting sales prices, managing to maintain stable costs while charging higher prices for its products. This reflects the company's strong competitive profitability in the market.
2. **Return on Equity (ROE):** The return on equity rose from 22.8% in 2018 to 25.28% in 2022, indicating an increase in the efficiency of using shareholders' capital, enhancing profitability. This could also reflect the company's success in optimizing asset allocation and improving operational efficiency.
3. **Net Profit Margin:** The net profit margin increased from 35.07% in 2018 to 37.81% in 2022, demonstrating that the company effectively controlled costs and expenses while increasing revenue, thereby improving profit quality.

Growth Capability Analysis:

1. **Revenue Growth Rate:** The revenue growth rate decreased annually from 32.8% in 2018 to 11.72% in 2022. Although the growth pace has moderated, considering the overall industry trend and market saturation, the company has maintained a robust growth trajectory.
2. **Net Profit Growth Rate:** Similarly, the net profit growth rate decreased from 38.86% in 2018 to 14.17% in 2022, reflecting the company's challenges in maintaining growth amidst market competition and cost pressures.

Figure 7. ChatGPT4.0 analysis results

Operational Capability Analysis:

1. Inventory Turnover Days: Inventory turnover days decreased from 38.37 days in 2018 to 29.7 days in 2022, showing improvements in inventory management efficiency and faster turnover.
2. Accounts Receivable Turnover Days: Accounts receivable turnover days reduced from 120.9 days in 2018 to 30.6 days in 2022, indicating the company has accelerated the collection of receivables, enhancing capital utilization efficiency.

Solvency Analysis:

1. Debt-to-Asset Ratio: The debt-to-asset ratio slightly decreased from 24.30% in 2010 to 23.64% in 2022, maintaining at a low level, which shows the company has a robust financial structure and strong solvency.
2. Current Ratio and Quick Ratio: Both the current ratio and quick ratio indicate the company has strong short-term debt-paying capabilities. The current ratio increased from 3.772 in 2018 to 8.847 in 2022, and the quick ratio similarly showed steady improvement.

Reasons for Changes:

- Market Position and Brand Strength: The company may have leveraged its brand influence and market position to enhance its pricing power and competitive strength.
- Cost Control and Operational Efficiency: By optimizing cost structures and improving operational efficiency, the company has effectively controlled costs and enhanced production capabilities.
- Market Strategy and Product Innovation: Through market expansion, product innovation, and strategic adjustments, the company has successfully met market demands, promoting growth in revenue and profits.

Figure 8. ChatGPT4.0 analysis results

(2) Summary of application value.

Advantages: 1. Improve the accuracy and efficiency of financial forecasts. When making financial forecasts, financial personnel usually need to sort out a large amount of historical data to perform complex and tedious calculations, which consumes a lot of manpower, material and financial resources. However, ChatGPT can write financial forecast reports and Generate financial decision-making recommendations to improve the efficiency and accuracy of analysis for financial forecasters, thereby saving company resources. 2. Help identify and avoid financial risks. ChatGPT can identify weak parts of enterprise risk prevention and control by analyzing financial data. It can also identify some abnormal financial data and changes in financial ratios based on reports to help financial analysts identify and respond to financial risks, and provide suggestions for the identified risks. 3. Broaden the horizons of financial analysis. GPT can conduct financial analysis on case companies from multiple dimensions based on the provided industry forecast reports, annual reports, financial statements and other data.

Disadvantages: 1. The quality of generated responses is closely related to the design of prompt words, which requires users to have certain financial knowledge. The degree of specialization and refinement of prompt word design determines the relevance of the reply content. 2. Under the premise of providing the same questions and financial information, the generated content is different each time, but the general analysis direction is the same. The source of the generated responses is not indicated, so you need to pay attention to identify it when using it. 3. When analyzing table

data, you need to pay attention to the table suffix. If the table content is too complex, it needs to be processed in advance to avoid identification errors. It is also best not to upload important company privacy data when uploading data to prevent the risk of data leakage.

4. Conclusion and Outlook

4.1. Conclusion

Through in-depth research on the applicability of ChatGPT in the financial management process and application testing of case companies, this article proves that the application of ChatGPT in the financial management process has certain feasibility and effectiveness, especially in generating financial forecasts and decision-making suggestions, the application of ChatGPT can free financial personnel from tedious and time-consuming work, improve work efficiency, and save time and costs. In addition, ChatGPT can also play a huge role in financial analysis. It can provide financial analysts with multi-dimensional analysis ideas based on the industry background of the company, so that financial data and non-financial data can be better integrated, thereby improving the efficiency of financial analysis. and accuracy.

4.2. Future Prospects

In the environment of big data and artificial intelligence, digital transformation of enterprises is inevitable, and financial management, as the top priority of enterprise management, should actively embrace new technologies and actively study its feasibility and practicality in financial

management work. The practical application of ChatGPT in financial forecasting and decision-making, financial control and financial analysis can help enterprises improve their data analysis capabilities, quickly formulate decision-making suggestions, accurately identify financial risks, and promote the intelligent transformation of accounting. However, there is still a lot of room for improvement in actual operations, and it is necessary to further explore its reasonable application in financial management links, turn impacts and challenges into opportunities for digital transformation, and achieve innovation and sustainable development in the accounting field.

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