**Analytics Solution**

A chatbot-embedded portal was developed to provide investors with more comprehensive company information in a faster timeframe, hence facilitating improved investment decisions. Users can engage with the service via a chatbot and upload corporate annual reports in PDF format to obtain prompt investment information. The chatbot can analyze the annual report uploaded by the user, offering textual and visual assessments of the company's internal and external strengths, weaknesses, and strategic direction through approaches such as SWOT, PESTLE, MOST and Sentiment analysis, enabling the user to swiftly obtain insights. Furthermore, chatbots can assist consumers in obtaining customized analytics using large language models. In summary, the portal offers an extensive array of business analytics tools to enhance user’s investment decision-making with a more thorough perspective timely. The significance of each approach is elaborated upon below.

1. **SWOT Analysis**

SWOT analysis evaluates a company's market position with its internal and external environments (Karim et al., 2020). Strengths assist users in identifying a company's fundamental competencies, such as finance, technology, branding, and others. Firms with technological barriers or substantial brand equity can sustain enduring competitiveness and are seen as long-term investments for investors (Krishna and Kim, 2021). Weaknesses assist investors in recognizing potential investment risks, like significant financial vulnerability or excessive dependence on a specific business. According to Asghar et al. (2020), if the annual report omits discussion regarding the stability of the top management team or frequent alterations within the auditing organization, the firm may possess governance concerns that warrant investor scrutiny. Opportunities emphasize growth possibilities in the external environment, including industry trends dividends, and prospective alliances or acquisitions. For instance, sectors aligned with government policy support are suitable for thematic investments by investors (Gottfried et al., 2018). Threats highlight dangers to the firm from the external environment, such as policy risks and supply chain disruption threats. For instance, increased rivalry within the business and the onset of price wars can result in the contraction of corporate profit margins, necessitating investor vigilance (Wang, 2024). Additionally, the portal displays information through a four-quadrant design shown as below, facilitating more straightforward and precise access for users.

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Figure X: SWOT Quadrant Chart

1. **PESTLE Analysis**

PESTLE analysis is a key tool for finding the factors that influence companies and decisions. The portal incorporates this framework to enable investors to understand the political, economic, social, technical, legal and environmental factors of the industry to help investors make data-driven decisions.

Political conditions, such as government regulations and trade policies, significantly impact industries by affecting taxes and incentives (Zheng, Chen and Sun, 2025). Firms must closely monitor these policies to navigate risks and opportunities. Trade policy uncertainty (TPU) influences business decisions and creates financing challenges, particularly for non-state-owned firms (Zheng, Chen and Sun, 2025), leading to cautious financial strategies.

Economic factors, including inflation and interest rates, shape firms' financial stability and market valuation (Denziana, Indrayenti and Fatah, 2014). Proper economic analysis helps firms optimize financial strategies and mitigate risks. Social trends, such as evolving consumer preferences and globalization, drive changes in corporate strategies. Companies that adapt to shifting social expectations maintain a competitive edge.

Technological advancements enhance efficiency and competitiveness (Koellinger, 2008). Continuous investment in innovation is essential for long-term growth. Legal and regulatory institutions play a crucial role in shaping corporate strategy by affecting compliance costs, investor protection, and the corporate governance (Cumming et al., 2017). Firm need proactive compliance measures to balance growth and regulatory risks.

The portal simplifies PESTLE analysis by generating a matrix chart, allowing users to visualize key external factors and their impact, making it easier to assess risks and opportunities.

图形用户界面, 文本, 应用程序, Word

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Figure X: PESTLE Analysis

1. **MOST Analysis**

MOST analysis is a strategic planning tool used to align a company's goals with its internal capabilities. It examines four key elements: mission, goals, strategies, and tactics, helping companies define objectives and develop viable growth plans. The portal integrates this framework to support data-driven decision-making.

Corporate Social responsibility (CSR) shapes a company's core objectives by combining business strategy with social and environmental responsibility (Dupire and M 'Zali, 2018). A clear corporate social responsibility provides direction and guidance for a company's foothold in the market. This shows that the mission of corporate is the key information that investors need to fully understand.

Fischer et al. (2020) proposes that a firm's "meta-goals" (high-level goals that guide overall direction and decision-making) determine the configuration of its policies and business processes. Understanding the company's goals can also help investors understand the direction of the company, so that they can make better decisions.

Business strategy defines how a company strengthens its competitive position by leveraging key resources and capabilities to achieve its objectives (Farida and Setiawan, 2022). A strong strategy provides a competitive advantage by leveraging market opportunities and internal strengths. For investors, a well-structured strategy indicates a firm's ability to sustain its market position, which makes it a key factor in investment evaluation.

Tactics are small plans or micro-strategies that help organizations develop their operations. Tactical planning is critical because it Bridges the gap between the strategic and operational levels, ensuring alignment between strategic objectives and operational constraints (Okongwu et al., 2016). Understanding a company's tactical planning allows investors to assess the effectiveness of the company's strategic moves. It helps investors to make reasonable investment decisions.

The portal enhances MOST analysis by generating a pyramid diagram, helping users visualize corporate vision, strategic execution, and growth potential more effectively.

图表, 漏斗图

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Figure X: Most Analysis

1. **Sentiment analysis & Additional analysis**

Sentiment analysis of a corporation's annual report can assist investors in more accurately forecasting the company's future fundamentals and strategies (Azimi and Agrawal, 2021). Positive feelings indicate management's optimism regarding prospects, prompting strategic intentions like executing expansion plans. Conversely, negative sentiment responds to possible threats encountered by companies, such as industry recessions. Moreover, investors need a consistent assessment for sentiment analysis to mitigate the influence of statements that the sentiment is intentionally exaggerated by management to entice investors. Additionally, the portal visualizes sentiment analysis by generating sentiment scales and word clouds, as illustrated below.

报纸上的字

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Figure X: Word Cloud

形状

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Figure X: Emotional Scale

Furthermore, users can interact with the chatbot to obtain personalized specifications for the content analysis of annual reports. For instance, customers may request the chatbot to employ the BCG matrix to evaluate the performance of the business's product lines, thereby assisting in the assessment of the company's growth potential. Customized analytics improve the adaptability and generalizability of the portal, augmenting its appeal to investors.

*(1076 words)*

In summary, the investment portal provides investors with AI-driven insights and tools, helping them make efficient decisions. By integrating SWOT, PESTLE, MOST, and sentiment analysis, it offers a comprehensive analysis of company and market dynamics. The intelligent chatbot delivers personalized assessments, making investment analysis more precise and efficient. Investors and businesses can leverage the platform to gain industry insights, make data-driven decisions, and seize market opportunities.

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