



# The role of data analysis in improving the transparency accounting information

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## ABSTRACT

This research aims to examine how accounting information transparency has undergone transformation and development in the digital era in every organization. The results of the study show that sophisticated data analysis techniques, adoption of modern data analysis technology, ERP implementation, understanding of new technologies, data analytical skills, BI application and the use of big data have a significant effect on the transparency of accounting information. The methodology of this research uses a qualitative descriptive approach by collecting data through literature review from various relevant sources, the data sources of this research include articles, journals, books, research reports and other sources.

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## 1. INTRODUCTION

In today's digital era, data analysis has become one of the important pillars in information management, including in the field of accounting. The rapid digital transformation is not only affecting the way companies operate but also how information is presented and understood. One of the most crucial aspects in this context is the transparency of accounting information. Transparency of accounting information is very important, not only for the internal interests of the company, such as management and employees, but also for external stakeholders such as investors, regulators, and the general public. (PwC, 2022) according to companies that are able to present accounting information transparently tend to have a higher level of trust from stakeholders. This shows that transparency not only affects the company's reputation, but also its financial performance. For example, companies that routinely disclose clear and accurate financial statements are more likely to attract new investors, as investors feel safer to place their capital in companies that have a good record of transparency.

Data analysis serves to process complex information to be easier to understand and access. In the context of accounting, data analysis can be helpful in identifying patterns, trends, and anomalies in financial statements. Using data analysis techniques, companies can conduct an in-depth analysis of various financial variables, such as revenue, costs, and cash flow. (Aldino & Septiano, 2021) note that the use of proper data analysis tools, such as statistical analysis and data visualization software, can speed up the decision-making process and improve accuracy in reporting. For example, by analyzing historical data, companies can predict future revenue and plan more effective business strategies. Thus, the ability to analyze data properly is not only a competitive

advantage, but also a fundamental necessity for companies that want to survive and thrive in an increasingly competitive market.

Furthermore, transparency of accounting information can encourage more ethical and responsible business practices. (Hadis, Ihsan, Dwiharyadi, Septriani, & Afni, 2022) explained that with transparency, it will be more difficult for companies to carry out harmful practices, such as manipulation of financial statements. When accounting information is presented openly and clearly, the risk of fraud can be minimized. This in turn can reduce the risk of bankruptcy and improve overall economic stability. For example, when public companies disclose financial information transparently, they not only fulfill legal obligations, but also build trust among investors and customers. Therefore, it is important to understand how data analysis can contribute to this increased transparency. By leveraging data analytics, companies can identify areas that need more attention and ensure that all relevant information is presented in an easy-to-understand manner. (Marbun & Adinda, 2025) stated that the application of blockchain in accounting information systems can provide a number of benefits, including data transparency and security, process efficiency and data accessibility.

In this study, the author will explore various aspects related to the role of data analysis in increasing the transparency of accounting information. Through an in-depth literature review, it is hoped that a better understanding of the relationship between these two elements can be obtained. This research will also provide practical recommendations for companies in implementing data analysis to increase transparency. With a systematic and data-driven approach, companies can develop more effective strategies in presenting accounting information to the public. For example, companies can use interactive dashboards to present financial information in real-time, allowing stakeholders to gain deeper insights into the company's performance without having to wait for annual reports. Arie (2024) found that big data and artificial intelligence provide a change in the perspective of accounting practices, automation of accounting processes, the role of accountants in the digital era, and challenges and risks.

Finally, the aim of this study is to provide a comprehensive insight into the importance of data analysis in the context of accounting and transparency. Thus, it is hoped that the results of this research can be a reference for academics, practitioners, and other parties interested in improving the quality of accounting information. This research will not only discuss existing theories, but also provide concrete examples of companies that have successfully implemented data analysis to achieve better transparency. By integrating theory and practice, it is hoped that this research can make a significant contribution to the development of accounting science and better business practices in the future. Research results (Rosmala, 2024) show that there are several significant innovations in the field of accounting triggered by the development of digital technology, including automation of accounting processes, the use of analytical data, blockchain in accounting, cloud computing and artificial intelligence.

Data analysis in accounting has become a topic that has attracted the attention of many researchers and practitioners. (Brynjolfsson & McAfee, 2022) according to data analysis can be interpreted as the process of collecting, processing, and interpreting data to produce useful information. In the context of accounting, data analysis allows companies to evaluate financial performance, identify risks, and plan more effective business strategies.

One of the tools that is often used in data analysis is Business Intelligence (BI). BI allows companies to collect data from a variety of sources and present it in an easy-to-understand form. (Nugrahanti, Puspitasari, & Andaningsih, 2023) stated that the application of BI in accounting can increase the transparency of financial statements, making it easier for stakeholders to make decisions. With BI, companies can generate more accurate and timely reports, which in turn increases the trust of investors and other stakeholders.

In addition, the use of big data technology in accounting is also increasing. Big data allows companies to analyze huge and complex volumes of data. (Zorn, 2022) notes that companies that utilize big data in their financial statements can better identify market trends and consumer

behavior. This not only increases transparency, but also provides a competitive advantage in strategic decision-making. (Putra, Hernawan, Putri, & Rahman, 2025) stated that big data analytics has enormous potential to increase efficiency and effectiveness in accounting practices.

However, despite the many benefits offered, there are also challenges in applying data analytics in accounting. (Khusna, Fransiska, Karimah, & Arwani, 2025) argue that a lack of analytical skills among accountants can hinder the implementation of this technology. Therefore, it is important for companies to provide training and skill development to employees in order to make the most of data analytics technology.

In order to increase the transparency of accounting information, companies also need to pay attention to ethical aspects in data analysis. (Okorie, Udeh, Adaga, DaraOjimba, & Oriekhoe, 2024) shows that ethical data analysis practices will produce more trustworthy and accountable information. Thus, companies must not only focus on technology, but also on ethical values in data processing. Based on the explanation described above, the researcher formulated the problem of whether data analysis and big data have an impact on the transparency of accounting information.

## 2. RESEARCH METHOD

This study uses a qualitative descriptive approach by collecting data through literature review from various relevant sources. This approach was chosen with the consideration that qualitative analysis can provide a more in-depth and holistic picture of the role of data analysis in improving the transparency of accounting information. In this context, accounting information transparency refers to the extent to which the financial information presented by the company is accessible and understood by stakeholders, including investors, creditors, and the general public. Thus, a clear understanding of the role of data analytics in achieving a high level of transparency is essential.

The data obtained will be qualitatively analyzed to identify the main themes and relationships between data analysis and transparency of accounting information. This qualitative analysis allows researchers to dig deep into the deep meaning of the data collected, as well as understand the context in which the information is generated and used. For example, in a study conducted by (Smith & Jones, 2020), it was found that companies that apply advanced data analysis techniques, such as predictive analytics, are able to provide more transparent and accurate financial reports compared to companies that do not utilize this technology. This suggests that there is a significant relationship between the use of data analysis and increased transparency of accounting information.

The data sources used in this study include journal articles, books, research reports, and other relevant sources. The references used are taken from various authors and reputable institutions in the field of accounting and data analysis. For example, articles published by the Journal of Accounting Research and Accounting Review are often used as references due to their high quality and credibility. This aims to ensure that the information obtained is accurate and accountable. In this context, it is important for researchers to choose sources that are not only relevant but also influential in the development of accounting science.

The data collection process is carried out by identifying literature related to the research topic. After that, the author analyzes the content in the literature to extract relevant information. This process involves critical reading and assessment of arguments put forward by other authors, as well as considering the context in which the research was conducted. The data obtained is then grouped by theme and sub-theme to facilitate further analysis. For example, themes that may appear in this study include "data analysis technology", "transparency of financial statements", and "stakeholder perception of accounting information".

In data analysis, the author will use thematic analysis techniques to identify patterns that emerge from the literature that has been reviewed. This technique allows the author to organize information in a systematic and structured way, so as to provide a clearer insight into the role of data analysis in increasing the transparency of accounting information. Through thematic analysis, researchers can identify relationships between various elements in the literature, for example, how the use of data analysis software can improve the accuracy and speed in the presentation of financial

statements. Previous research by (Brown, 2021) showed that companies that adopt modern data analysis technologies experience a significant increase in stakeholder satisfaction related to financial information transparency.

The results of this research are expected to contribute to the development of science in the field of accounting and provide practical recommendations for companies in implementing data analysis to improve the transparency of accounting information. By understanding the relationship between data analytics and transparency, companies can formulate more effective strategies for presenting financial information to the public. In addition, the results of this study can also be a reference for stakeholders in evaluating the company's performance from the perspective of information transparency. In the increasingly advanced digital era, the application of data analysis is not only an option, but also a necessity for companies that want to remain competitive and trusted by stakeholders.

Thus, the study not only focuses on the technical aspects of data analysis, but also considers the social and ethical implications of accounting information transparency. Better disclosure of information can increase public trust and strengthen a company's reputation, which in turn can have a positive impact on financial performance. Therefore, it is important for companies to adopt appropriate data analysis technologies and develop policies that support the transparency of accounting information.

### 3. RESULTS AND DISCUSSIONS

The results of the literature review show that there is a significant relationship between data analysis and transparency of accounting information. In today's digital era, where information is one of the most important assets for companies, the use of the right data analysis tools can increase the accuracy and speed in the presentation of financial statements. For example, companies that use an ERP (Enterprise Resource Planning) system can integrate data from different departments, such as finance, marketing, and production. With this integration, the resulting reports are not only more comprehensive but also more transparent. ERP not only collects data, but also analyzes and presents it in an easy-to-understand format. This allows management to make better and faster decisions, as well as provide clearer information to stakeholders. (Deloitte, 2023) according to companies that implement ERP systems report an increase in efficiency of up to 30%, which shows how important technology is in supporting transparency in financial statements.

In addition, data analysis also allows companies to detect anomalies in financial statements. By using statistical analysis techniques, such as regression and multiple regression analysis, companies can identify suspicious transactions and take the necessary actions to prevent fraud. For example, if there is an unusual spike in certain spending, data analysis can help companies find the cause, whether it's human error or potential fraud. This is very important to maintain the integrity of financial statements and increase stakeholder trust. When stakeholders feel that a company's financial statements are reliable, they are more likely to invest and collaborate. (Aziz, 2023) noted that companies that are active in data analysis are able to reduce fraud cases by up to 40%, which of course has a positive impact on the company's reputation and financial performance. Research by (Andreani & Syafina, 2022) shows that the application of information technology has a positive impact on the accountability and transparency of financial statements.

Statistics show that companies that implement data analytics in their financial statements experience a significant increase in transparency. According to research by (Wamba, 2021), 75% of companies that use data analytics report that they are able to provide more transparent and accurate financial information to investors and other stakeholders. This shows that data analytics is not only beneficial for the company itself, but also for the entire business ecosystem. In this context, the transparency of accounting information becomes a bridge between companies and investors, which in turn can increase the value of the company in the market. For example, companies that routinely provide clear and accurate reports tend to have more stable stock prices and are attractive to investors. The results of (Komala & Elisa, 2024) research show that the implementation of a cloud-

based accounting information system can significantly improve financial transparency which includes data accessibility, data security, cost reduction and implementation challenges.

However, challenges remain in the application of data analysis. Many companies still face difficulties in integrating data analysis systems with existing accounting processes. Juniardi & Donny (2024) notes that a lack of understanding of new technologies among accountants can hinder effective implementation. For example, if an accountant is unfamiliar with data analysis tools, they may have difficulty in understanding the results of a given analysis, thus reducing the benefits of the analysis. Therefore, it is important for companies to provide adequate training to employees so that they can make good use of data analytics. This training not only covers how to use data analysis software, but also an understanding of how data can be used for better decision-making. (Muhammad HM & Junianti, 2023) stated that blockchain technology improves transparency and security, process efficiency and cost reduction in addition to the challenges of its implementation with the complexity of technology, regulations and regulations as well as integration with existing systems in accounting information transparency.

This discussion shows that despite the challenges, the benefits of applying data analytics in improving the transparency of accounting information are much greater. Companies that are able to overcome these challenges and implement data analytics well will have a competitive advantage in an increasingly competitive market. By increasing transparency, companies not only build trust with stakeholders but also create new opportunities for growth. Therefore, companies must continue to invest in technology and training to ensure that they can harness the full potential of data analytics. In conclusion, data analysis is not only a tool to improve efficiency, but it is also the foundation for building strong and transparent relationships with all stakeholders, which in turn can drive the company's sustainability and future success.

#### 4. CONCLUSION

Data analysis has a very important role in increasing the transparency of accounting information. In the ever-evolving digital era, the ability to analyze data is becoming increasingly crucial. By using the right analytical tools and techniques, companies can produce more accurate and transparent financial statements. Accurate financial statements not only reflect the company's financial condition, but also provide a clear picture of the company's operational performance and market position. For example, by using advanced data analysis software, companies can identify revenue and expense trends that may not be seen in traditional reports. This allows management to make more informed and strategic decisions.

Transparency of accounting information also contributes to increased trust from stakeholders. When stakeholders, such as investors, creditors, and customers, have access to clear and accurate information, they are more likely to trust the company. For example, a company that regularly publishes transparent and easy-to-understand financial statements will be more attractive to investors, which in turn can increase the value of the company's shares. In addition, transparency can also reduce the risk of fraud and errors in financial statements, thereby improving the company's reputation in the eyes of the public.

However, while the benefits of implementing data analytics are significant, challenges in implementing them remain. One of the main challenges is the lack of analytical skills among employees. Many companies still rely on traditional methods in data processing, which can result in errors and inaccuracies in financial statements. Therefore, companies need to invest in employee training and skill development to ensure that they can make the most of data analytics technology. This training not only covers the use of analytics software, but also an understanding of how data can be used to support better decision-making.

Ethical aspects in data analysis also need to be considered so that the information produced can be accounted for. In the context of accounting, ethics play a very important role in maintaining the integrity of financial statements. For example, companies must ensure that the data used in the analysis is valid and not manipulated. Data manipulation can be fatal, not only for the company itself but also for the stakeholders who depend on the information. Therefore, companies must adopt

strict policies related to data collection and use, as well as ensure that employees understand the importance of ethics in data analysis.

This research provides valuable insights for companies looking to improve the transparency of accounting information through data analysis. By understanding the challenges and benefits associated with data analytics, companies can formulate effective strategies to improve the transparency and accuracy of their financial statements. It is hoped that the results of this research can be a reference for academics, practitioners, and other interested parties in the field of accounting and data analysis. In addition, with more and more research being conducted in this field, it is expected that there will be further development in data analysis methods and techniques that can be applied in various industrial sectors.

In conclusion, data analysis plays a very important role in improving the transparency of accounting information. By utilizing the right analytical tools and techniques, companies can produce more accurate and transparent financial reports, which in turn will increase the trust of stakeholders. While there are challenges in implementing data analytics, the benefits are far more significant. Investments in employee training and skill development as well as attention to ethical aspects in data analysis will greatly contribute to the company's success in achieving the desired transparency. This research not only provides a deeper understanding of the relationship between data analysis and accounting information transparency, but also serves as a guide for companies looking to adapt to the rapid changes in today's business world. This research has limitations in citing several sources, both books and journals. It is recommended that future researchers use more comprehensive sources from national or international journals.

#### REFERENCES

- Aldino, H. P., & Septiano, R. (2021). Pengaruh Penggunaan Sistem Informasi Akuntansi, Teknologi Informasi, Pengendalian Internal dan Kualitas Sumber Daya Manusi Terhadap Kualitas Laporan Keuangan. *Menara Ekonomi*.
- Andreani, Y., & Syafina, L. (2022). Akuntabilitas Dan Transparansi Laporan Keuangan Berbasis Teknologi Informasi Pada Badan Amil Zakat Nasional Kabupaten Deli Serdang. *AKUA: Jurnal Akuntansi dan Keuangan*, 203-209.
- Aziz, F. (2023). Data analytics impacts in the field of accounting. *World Journal of Advanced Research and Review*.
- Binawati, E., & Nindyaningsih, C. T. (2022). Pengaruh Penerapan Sistem Akuntansi Keuangan Daerah, Kompetensi Sumber Daya Manusia, Sistem Pengendalian Intern dan Pemanfaatan Teknologi Informasi Terhadap Keualitas Laporan Keuangan Pemerintah Daerah (Studi Empiris pada Dinas SKPD di Kabupaten Klaten). *Optimal*, 19-39.
- Brown, L. (2021). Modern Data Analysis Techniques in Accounting: A Study of Stakeholder Satisfaction. *Accounting Review*, 305-320.
- Brynjolfsson, E., & McAfee, A. (2022). *The Business of AI: Beyond Predictions*. Harvard Business Review.
- Deloitte. (2023). *Future Trends in Accounting Technology*. Deloitte Insights.
- Hadis, F., Ihsan, H., Dwiharyadi, A., Septriani, Y., & Afni, Z. (2022). Pengaruh Pemanfaatan Teknologi Informasi, Kompetensi Sumber Daya Manusia Terhadap Kualitas Laporan Keuangan. *Akuntansi dan Manajemen*, 106-120.
- Juniardi, E., & Putra, D. M. (2024). Digital Transformation in Accounting: Navigating the Future of the Profession Through Systematic Review and Meta-analysis. *The 3rd Jakarta Economic Sustainability International Conference*. Jakarta: Knowledge E.
- Khan, A. (2024). Data Management and AI for Blockchain Data Analysis: A Round Trip and Opportunities.
- Khusna, T., Fransiska, M., Karimah, A. N., & Arwani, A. (2025). Peran Big Data Analytics dalam Meningkatkan Transparansi Laporan Keuangan Syariah. *Jurnal Sahmiyya*.
- Komala, R., & Elisa, N. (2024). Peningkatan Transparansi Keuangan: Implementasi Sistem Informasi Akuntansi Berbasis Cloud. *JSEH (Jurnal Sosial Ekonomi dan Humaniora)*, 670-675.
- Lestari, E. E., & Dura, J. (2025). Pengaruh Artificial Intelligence, Kapabilitas Teknologi Informasi, dan Pelatihan Karyawan Terhadap Efisiensi Proses Akuntansi di Kantor Akuntan Publik Kota Malang. *4th MDP Student Conference (MSC)*. Palembang.
- Lubis, S. H., & Firdaus, R. (2024). Peran Teknologi dalam Mengembangkan Sistem Informasi Akuntansi. *JICN: Jurnal Intelek dan Cendekiawan Nusantara*.

- Marbun, T. S., & Adinda, Z. (2025). Penerapan Blockchain dalam Sistem Informasi Akuntansi (SIA). *Jurnal Akuntansi Keuangan dan Bisnis*, 987-993.
- Muhammad HM, A. D., & Junianti, S. A. (2023). Penerapan Teknologi Blockchain Dalam Sistem Informasi Akuntansi: Potensi Dan Tantangan. *Jurnal Jawara Sistem Informasi*.
- Nugrahanti, T. P., Puspitasari, N., & Andaningsih, I. R. (2023). Transformasi Praktik Akuntansi Melalui Teknologi: Peran Kecerdasan Buatan, Analisis Data, dan Blockchain dalam Otomatisasi Proses Akuntansi. *Jurnal Akuntansi dan Keuangan West Science*, 213-221.
- Nugrahanti, T. P., Sudarmanto, E., Bakri, A. A., Susanto, E., & Male, S. R. (2023). Pengaruh Penerapan Teknologi Big Data, Independensi Auditor, dan Kualitas Pelaporan Keuangan terhadap Efektivitas Proses Audit. *Sanskara Akuntansi dan Keuangan*, 47-54.
- Okorie, G. N., Udeh, C. A., Adaga, E. M., DaraOjimba, O. D., & Oriekhoe, O. I. (2024). Ethical Considerations in Data Collection and Analysis: A Review: Investigating Ethical Practices and Challenges in Modern Data Collection and Analysis. *International Journal of Applied Research in Social Sciences*.
- Putra, T. R., Hernawan, R., Putri, A., & Rahman, Y. (2025). Peran Big Data Analytics dan Kode Etik dalam Perkembangan Profesi Akuntansi. *JEMBA : Journal Of Economics, Management, Business, And Accounting*, 103-117.
- Putri, A. P. (2024). Transformasi Akuntansi di Era Big Data dan Teknologi Artificial Intelligence (AI). *Jurnal Cahaya Mandalika*.
- PwC. (2022). *The Importance of Transparency in Financial Reporting*.
- Rosmala, C. (2024). Inovasi Akuntansi Dalam Era Digital: Strategi Peningkatan Efisiensi Laporan Keuangan. *Proceedings of Islamic Economics, Business, and Philanthropy*. Jakarta.
- Susanti, W. E. (2024). Blockchain, Artificial Intelligence, dan Big Data: Teknologi yang Mengubah Wajah Akuntansi di Era Digital. *Jebital: Jurnal Ekonomi dan Bisnis Digital*, 1-9.
- Smith, J., & Jones, A. (2020). The Impact of Data Analytics on Financial Reporting Transparency. *Journal of Accounting Research*, 567-590.
- Wamba, S. e. (2021). Big Data Analytics in Accounting and Finance: Trends and Future Directions. *Technological Forecasting & Social Change*.
- Zorn, M. e. (2022). Big Data in Managerial Accounting. *Management Accounting Quarterly*, 33-42.