ASET JOURNAL OF MANAGEMENT SCIENCE
Peer Reviewed & Open Access Journal
ISSN : 2584 - 220X (Online) | RNI : Applied | Frequency : Bi-Monthly

BIG DATA AND IT'S STRATEGIC IMPLICATIONS FOR BUSINESS ANALYSTS

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Abstract

Big Data has emerged as a transformative force across industries, reshaping how businesses operate and make decisions. Business analysts are at the forefront of leveraging Big Data to generate actionable insights, optimize operations, and create value. This paper explores the strategic implications of Big Data for business analysts, examining its impact on their roles, required skill sets, tools, and the overall decision-making process. Through a review of literature and industry practices, this research highlights the opportunities, challenges, and future directions in the integration of Big Data within the business analysis domain.

Keywords: *Big Data, Business Analysts, Strategic Decision-Making, Data Analytics, Business Intelligence*

Introduction

The exponential growth of data from digital sources has led to the emergence of Big Data—a term referring to large, complex datasets that require advanced techniques for analysis. Businesses are increasingly investing in Big Data technologies to gain a competitive edge. Business analysts play a critical role in interpreting these data sets, aligning business goals with analytical outcomes, and providing strategic recommendations. This paper aims to delve into how Big Data influences business analysis and its implications for strategic business practices.

Understanding Big Data

Big Data is characterized by the "5 Vs": Volume, Velocity, Variety, Veracity, and Value. These attributes demand sophisticated data management and analytical tools. The sources of Big Data include social media, IoT devices, transaction records, and more. Unlike traditional data, Big Data cannot be processed using conventional tools, necessitating the use of platforms like Hadoop, Spark, and cloud-based analytics.

The Evolving Role of Business Analysts

https://doi.org/10.47059/AJMS/V4SI02/15

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Traditionally, business analysts focused on requirements gathering, process modeling, and stakeholder communication. However, with the advent of Big Data, their responsibilities have expanded to include:

i. Data interpretation and visualization
ii. Collaborating with data scientists and IT teams
iii. Driving data-driven decision-making
iv. Ensuring data governance and ethical use

This evolution requires analysts to be proficient in tools like Power BI, Tableau, SQL, Python, and understand data modeling and statistical concepts.

1. Strategic Implications of Big Data

Enhanced Decision-Making

Big Data enables real-time analytics, predictive modeling, and scenario simulation, allowing business analysts to provide deeper insights and support faster decision-making.

Competitive Advantage

Companies leveraging Big Data analytics gain a significant competitive advantage through better customer insights, operational efficiencies, and market trend identification.

Risk Management

Big Data supports proactive risk assessment and mitigation strategies by analyzing historical and real-time data patterns.

Personalization and Customer Experience

Business analysts can use Big Data to personalize customer interactions, forecast customer needs, and improve retention strategies.

Challenges and Limitations

Despite its potential, integrating Big Data presents several challenges:

i. Data quality and integration issues
ii. High costs of implementation
iii. Skill gaps among business analysts
iv. Data privacy and ethical concerns

These challenges require a balanced approach combining technology, talent, and governance frameworks.

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2. Key Concepts in Big Data

Volume Refers to the massive amount of data generated every second from various sources such as social media, sensors, and business transactions.

Velocity Indicates the speed at which data is created, collected, and processed to enable real-time or near real-time insights.

Variety Represents the different forms of data—structured, semi-structured, and unstructured—coming from multiple channels.

Veracity Relates to the accuracy and trustworthiness of data, which affects the reliability of insights derived.

Value The most important aspect, focusing on deriving meaningful and actionable insights from Big Data to drive business growth.

3. Review of Literature

A comprehensive body of literature explores the intersection of Big Data and business analysis. McAfee and Brynjolfsson (2012) emphasize the transformative power of Big Data in enabling data-driven decision-making and reshaping managerial roles. Davenport and Harris (2007) argue that organizations that compete on analytics tend to outperform their peers by leveraging data as a strategic asset. Chen et al. (2012) highlight the evolution from traditional Business Intelligence to Big Data Analytics, underlining the shift in required analytical capabilities and tools. Furthermore, Gartner's 2023 report on Big Data trends indicates a growing demand for real-time analytics and predictive capabilities, especially in customer experience and operational optimization. IBM's Big Data & Analytics Hub reinforces the need for business analysts to adapt by acquiring technical skills and aligning closely with IT and data science teams. These studies collectively suggest that the strategic role of business analysts is becoming increasingly intertwined with Big Data technologies, necessitating a blend of business insight and technical acumen.

4.Case Studies

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Amazon Amazon uses Big Data to drive product recommendations, optimize logistics, and enhance customer experience. Business analysts play a key role in interpreting this data to refine strategies.

Healthcare Industry In healthcare, Big Data analytics helps predict disease outbreaks, personalize treatment, and improve operational efficiency. Business analysts bridge clinical and operational data for strategic insights.

Future Outlook The role of business analysts will continue to evolve with advancements in AI, machine learning, and real-time analytics. Emphasis will shift towards continuous learning, domain-specific knowledge, and ethical data usage. Organizations will increasingly rely on business analysts not just as interpreters of data but as strategic advisors.

Conclusion Big Data is redefining the landscape of business analysis. By embracing data-driven tools and methodologies, business analysts can significantly contribute to strategic initiatives and organizational success. The future of business analysis lies in the integration of analytical expertise with business acumen to unlock the full potential of Big Data.

References

1. Catherine, S., Kiruthiga, V., & Gabriel, R. (2024). Effective Brand Building in Metaverse Platform: Consumer-Based Brand Equity in a Virtual World (CBBE). In Omnichannel Approach to Co-Creating Customer Experiences Through Metaverse Platforms (pp. 39-48). IGI Global Scientific Publishing.
2. Catherine, S., Ramasundaram, G., Nimmagadda, M. R., & Suresh, N. V. (2025). Roots, Routes, and Identity: How Culture Shapes Heritage Travel. In Multiple-Criteria Decision-Making (MCDM) Techniques and Statistics in Marketing (pp. 343-352). IGI Global Scientific Publishing.
3. Catherine, S., Suresh, N. V., Mangaiyarkarasi, T., & Jenefa, L. (2025). Unveiling the Enigma of Shadow: Ethical Difficulties in the Field of AI. In Navigating Data Science: Unleashing the Creative Potential of Artificial Intelligence (pp. 57-67). Emerald Publishing Limited.
4. Chen, H., Chiang, R. H. L., & Storey, V. C. (2012). Business Intelligence and Analytics: From Big Data to Big Impact. MIS Quarterly.
5. Davenport, T. H., & Harris, J. G. (2007). Competing on Analytics. Harvard Business School Press.
6. Gartner Reports on Big Data Trends (2023)

https://doi.org/10.47059/AJMS/V4SI02/15

7. Gokila, S., Helen, D., Alemu, A. M., & Suresh, N. V. (2024, November). Scaling Approach Over Learning Layer of Deep Learning Model to Reduce the FALSE Error in Binary Classification. In 2024 8th International Conference on Electronics, Communication and Aerospace Technology (ICECA) (pp. 1294-1300). IEEE.
8. Helen, D., & Suresh, N. V. (2024). Generative AI in Healthcare: Opportunities, Challenges, and Future Perspectives. Revolutionizing the Healthcare Sector with AI, 79-90.
9. IBM Big Data & Analytics Hub (2023)
10. Kalaivani, M., Suganya, V., Suresh, N. V., & Catherine, S. (2025). The Next Wave in Marketing: Data Science in the Age of Generative AI. In Navigating Data Science (pp. 13-26). Emerald Publishing Limited.
11. McAfee, A., & Brynjolfsson, E. (2012). Big Data: The Management Revolution. Harvard Business Review.
12. Poongavanam, S., Srinivasan, R., Arivazhagan, D., & Suresh, N. V. (2023). Medical Inflation-Issues and Impact. Chettinad Health City Medical Journal (E-2278-2044 & P-2277-8845), 12(2), 122-124.
13. Suganya, V., & Suresh, N. V. (2024). Potential Mental and Physical Health Impacts of Spending Extended Periods in the Metaverse: An Analysis. In Creator's Economy in Metaverse Platforms: Empowering Stakeholders Through Omnichannel Approach (pp. 225-232). IGI Global.
14. Suresh, N. V., & Rexy, V. A. M. (2024, February). An Empirical Study on Empowering Women through Self Help Groups. In 3rd International Conference on Reinventing Business Practices, Start-ups and Sustainability (ICRBSS 2023) (pp. 957-964). Atlantis Press.
15. Suresh, N. V., Ananth Selvakumar, Gajalaksmi Sridhar, and S. Catherine. "Ethical Considerations in AI Implementation for Patient Data Security and Privacy." In AI Healthcare Applications and Security, Ethical, and Legal Considerations, pp. 139-147. IGI Global, 2024.
16. Suresh, N. V., Catherine, S., Selvakumar, A., & Sridhar, G. Transparency and accountability in big data analytics: Addressing ethical challenges in decision-making processes. In Digital Transformation and Sustainability of Business (pp. 742-745). CRC Press.
17. Suresh, N. V., Karthikeyan, M., Sridhar, G., & Selvakumar, A. (2025). Sustainable urban planning through AI-driven smart infrastructure: A

https://doi.org/10.47059/AJMS/V4SI02/15

comprehensive review. Digital Transformation and Sustainability of Business, 178-180.

18. Suresh, N. V., Manoj, G., Rajkumar, M. D., & Kanagasabai, B. (2024). Fundamental anomalies as a mediator in the relationship between heuristics and investment decisions. International Journal of Applied Management Science, 16(4), 383-396.

19. Suresh, N. V., Selvakumar, A., & Sridhar, G. (2024). Operational efficiency and cost reduction: the role of AI in healthcare administration. In Revolutionizing the Healthcare Sector with AI (pp. 262-272). IGI Global.

20. Suresh, N. V., Selvakumar, A., Sasikala, B., & Sridhar, G. (2024, June). Integrating Environmental, Social, and Governance (ESG) Factors into Social Accounting Frameworks: Implications for Sustainable Business Practices. In International Conference on Digital Transformation in Business: Navigating the New Frontiers Beyond Boundaries (DTBNNF 2024) (pp. 18-28). Atlantis Press.

21. Suresh, N. V., Selvakumar, A., Sridhar, G., & Jain, V. (2024). Integrating Mechatronics in Autonomous Agricultural Machinery: A Case Study. Computational Intelligent Techniques in Mechatronics, 491-507.

22. Suresh, N. V., Selvakumar, A., Sridhar, G., & Jain, V. (2025). Dynamic Pricing Strategies Implementing Machine Learning Algorithms in E-Commerce. In Building Business Models with Machine Learning (pp. 129-136). IGI Global Scientific Publishing.

23. Suresh, N. V., Selvakumar, A., Sridhar, G., & Trivedi, S. (2024). A Research Study on the Ethical Considerations in Harnessing Basic Science for Business Innovation. In Unleashing the Power of Basic Science in Business (pp. 55-64). IGI Global.

24. Suresh, N. V., Shanmugam, R., Selvakumar, A., & Sridhar, G. Patient-centric care optimization: Strategies for enhancing communication and efficiency in healthcare settings through cross-functional collaboration. In Digital Transformation and Sustainability of Business (pp. 738-741). CRC Press.

25. Suresh, N. V., Sridhar, J., Selvakumar, A., & Catherine, S. (2024). Machine Learning Applications in Healthcare: Improving Patient Outcomes, Diagnostic Accuracy, and Operational Efficiency. In AI Healthcare Applications and Security, Ethical, and Legal Considerations (pp. 1-9). IGI Global

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