Young Journal
of Social Sciences and Humanities
| e-ISSN: 3090-2878
Vol 1, No 4 (2025)

Evaluation of the Impact of Smart Technology on Business Decision Making in Islamic Organizations

Risqullah Firdaus[1*], Muhammad Irwan Padli Nasution[2]
[12]Universitas Islam Negeri Sumatera Utara
Email: risqullahfirdaus@gmail.com

Abstract

Advancements in artificial intelligence (AI) and management information systems have significantly transformed the way modern organizations make strategic and operational decisions. Intelligent technologies enable large volumes of data to be processed rapidly and accurately, allowing leaders to rely on more precise, data driven insights. Through AI based analytics, managers can interpret market trends more effectively, assess business performance in real time, and identify potential opportunities with greater confidence. Automation of routine tasks and the integration of predictive analytics not only accelerate decision making processes but also enhance the quality, reliability, and consistency of the decisions produced. These technological developments contribute to meaningful strategic advantages, including increased productivity, reduced operational costs, improved customer experience, and stronger competitiveness in dynamic business environments. However, despite the substantial benefits offered, organizations still encounter various challenges in implementing intelligent systems. Concerns related to data security, privacy protection, ethical implications, and the readiness of human resources and technological infrastructure remain critical issues that need careful attention. Ensuring responsible, sustainable, and well managed adoption of AI is essential so that organizations can fully harness its potential while minimizing risks that may arise in the process.

Keywords: *Intelligent Technology; Decision Making; Data Driven Decisions*

Abstract: Kemajuan dalam kecerdasan buatan (AI) dan sistem informasi manajemen telah mengubah secara signifikan cara organisasi modern mengambil keputusan, baik pada level strategis maupun operasional. Teknologi cerdas memungkinkan pemrosesan data dalam jumlah besar secara cepat dan akurat, sehingga para pemimpin dapat mengandalkan wawasan berbasis data yang lebih tepat. Melalui analitik berbasis AI, manajer dapat memahami tren pasar dengan lebih efektif, menilai kinerja bisnis secara real time, serta mengidentifikasi peluang masa depan dengan tingkat keyakinan yang lebih tinggi. Otomatisasi tugas tugas rutin dan penggunaan analitik prediktif tidak hanya mempercepat proses pengambilan keputusan, tetapi juga meningkatkan kualitas, konsistensi, dan efektivitas keputusan yang dihasilkan. Perkembangan teknologi ini memberikan berbagai keuntungan strategis, seperti peningkatan produktivitas, penurunan biaya operasional, peningkatan kepuasan pelanggan, dan penguatan daya saing di lingkungan bisnis yang dinamis. Namun, di balik berbagai manfaat tersebut, organisasi masih menghadapi sejumlah tantangan dalam penerapan teknologi cerdas. Isu terkait keamanan data, privasi, pertimbangan etika, serta kesiapan sumber daya manusia

dan infrastruktur teknologi menjadi perhatian penting yang harus dikelola dengan baik. Dengan demikian, adopsi AI yang bertanggung jawab dan berkelanjutan menjadi kunci agar organisasi mampu memaksimalkan potensi teknologi sekaligus meminimalkan risiko yang mungkin muncul.
Keywords: *Smart Technology; Decision Making; Data Driven Decision Making*

INTRODUCTION

In the rapidly evolving digital era, the integration of intelligent technologies such as artificial intelligence (AI), management information systems, and Big Data Analytics has become a transformative force that reshapes the competitiveness and strategic orientation of modern organizations. Digital transformation is no longer viewed as a supplementary initiative or a symbol of technological advancement; instead, it has shifted into a core organizational necessity that determines long term continuity, resilience, and sustainability. As global competition intensifies and market environments become increasingly volatile, organizations are compelled to move beyond dependence on individual experience, managerial intuition, and traditional work patterns. They must adopt a more systematic, rational, and evidence based approach in their decision making processes. Intelligent technologies enable this shift by producing information that is faster, more accurate, and more relevant than conventional methods, allowing organizations to navigate complex business environments with greater confidence and precision.(Oemar et al., 2023)

Data driven decision making has emerged as one of the most crucial components of modern business strategy. Companies today must deal with fluctuating economic conditions, unpredictable consumer behavior, and the rapid emergence of new competitors. AI technologies provide the capability to process vast datasets, detect hidden correlations, and generate predictive insights that support strategic planning and policy formulation. Through these analytical capabilities, managers and policymakers gain a deeper and more holistic understanding of emerging challenges, organizational vulnerabilities, and potential growth opportunities. This comprehensive perspective allows decision makers to design strategies that are not only reactive to current issues, but also proactive in anticipating future market trends. Furthermore, AI minimizes analytical errors and reduces subjectivity by ensuring that insights are based on objective data rather than personal interpretation. As a result, organizations can respond more swiftly and accurately to market fluctuations, shifts in consumer expectations, or internal operational changes.(Ramli et al., 2023)

Beyond the realm of decision making, intelligent technology significantly reshapes operational functions across various industries. In supply chain management, for example, AI can forecast product demand with high precision, optimize inventory levels, and reduce logistical inefficiencies that

often lead to financial losses. In customer service, intelligent platforms help organizations understand consumer needs more deeply through real time behavioral data, enabling them to deliver highly personalized and efficient service experiences. Meanwhile, in product development and innovation, data collected from multiple sources such as customer feedback, competitor analysis, and emerging technological trends can be analyzed to identify gaps in the market and accelerate research and development processes. These advancements collectively contribute to reducing operational costs, boosting employee productivity, and enhancing the overall customer experience. Over time, organizations that successfully integrate intelligent technologies often demonstrate stronger strategic agility, greater innovation capacity, and a sustained competitive advantage.(Ismail et al., 2023)

However, the adoption of intelligent technologies also introduces several challenges that require thoughtful consideration. As organizations handle increasingly large volumes of sensitive data, concerns regarding data security become more pronounced. Cyberattacks, unauthorized access, and data breaches can result in significant financial harm and reputational damage. Ethical issues likewise emerge, particularly when AI algorithms produce biased or discriminatory outcomes due to imbalanced training data. These concerns underline the importance of establishing transparent, fair, and accountable AI governance frameworks. Another major challenge lies in human resource readiness. Employees must possess adequate digital literacy and technical competencies to work effectively within technology driven environments. Resistance to change and a lack of technological understanding can hinder the implementation process. Furthermore, limitations in infrastructure particularly in developing regions can impede organizations from fully leveraging advanced digital tools.

Recognizing these opportunities and challenges, organizations must develop a comprehensive and well coordinated strategy for the design, adoption, and evaluation of intelligent technologies. This strategy should encompass technological investment, data governance policies, cybersecurity measures, and continuous employee training. Equally important is cultivating an organizational culture that values innovation, adaptability, and lifelong learning. By building a workforce that is not only technologically capable but also open to change, organizations can better sustain technological innovation in the long run. A holistic approach that integrates these structural, cultural, and technological components ensures that intelligent technology becomes a powerful driver that supports the organization’s mission, vision, and long term sustainability. When implemented effectively, intelligent technologies do not merely enhance operational efficiency they reshape how organizations think, make decisions, and prepare for the future.(Hassan et al., 2022)

METHOD

This research employs a normative methodological approach that emphasizes in depth analysis and the formulation of strategic recommendations related to the use of intelligent technology in organizational decision making. The study begins with an extensive literature review covering scientific publications, books, journals, and official reports discussing artificial intelligence, management information systems, and their influence on decision making effectiveness. Through this review, the research identifies core concepts, current trends, and the evolving role of AI based systems across various sectors.

Subsequently, qualitative analysis is applied to synthesized data, previous empirical findings, and relevant case studies to understand the practical implementation of intelligent technologies within different industrial environments. This stage includes evaluating success determinants, potential challenges, and levels of organizational readiness in adopting AI driven decision support systems. The methodology also incorporates the development of a strategic framework designed to guide organizations in implementing intelligent technologies effectively, including measures for mitigating operational, ethical, and security risks. Additionally, evaluative techniques are used to examine the strategic benefits of smart technology adoption, such as improved work efficiency, cost optimization, and enhanced competitiveness. Ethical and regulatory considerations concerning data protection and privacy are also addressed to ensure that the resulting recommendations remain effective, sustainable, and aligned with responsible technology the governance.(Abdullah et al., 2025)

RESULTS AND DISCUSSION

Definition of Sustainability Awareness

Sustainability awareness in modern organizations refers to the collective understanding, mindset, and readiness of individuals and institutions to engage in practices that support long term ecological, social, and economic well being. This concept is no longer limited to environmental protection; it also encompasses the strategic use of technology, data, and organizational resources to ensure that business operations remain efficient, ethical, and future oriented. In today's rapidly evolving digital landscape, sustainability awareness increasingly includes the adoption of intelligent technologies that enhance efficiency, accuracy, and adaptability in business decision making.

Evaluating the impact of intelligent technology on business decisions has become crucial, especially with the rapid proliferation of artificial intelligence (AI), big data analytics, and integrated management information systems. Intelligent technologies enable organizations to process vast quantities of information at unprecedented speed and accuracy. This allows

decision makers to engage in data driven decision making supported by real time analysis and precise forecasting. the integration of such technologies enhances the quality of insights derived from data, supporting more objective and evidence based decisions.

AI systems are capable of automating routine tasks such as data collection, processing, and report generation, which traditionally consumed significant human time and energy. By delegating repetitive activities to intelligent systems, human resources can shift their focus toward strategic, creative, and complex problem solving tasks that require human judgment and innovation. This shift not only increases organizational productivity but also enhances the speed and accuracy of decisions while reducing the risk of human error.

Furthermore, research has shown that the functional effectiveness of modern organizations improves significantly with the adoption of intelligent technologies. According to Rusdi Hidayat Nugroho et al. (2024), AI integration can increase decision making effectiveness by more than 50%, illustrating its transformative effect on business operations. The successful deployment of intelligent technology, however, depends on several critical factors: the quality of available data, the organization's capacity to utilize the technology effectively, and the robustness of its integrated management information systems.(Ibrahim & Mahmod, 2023)

Despite these advantages, organizations also face notable challenges when implementing intelligent technologies. Issues such as data privacy, cybersecurity, and ethical considerations in AI use cannot be ignored. Mismanagement of data or irresponsible use of AI can lead to legal risks, public distrust, and social harm. Therefore, organizations must develop strict data governance frameworks and ethical guidelines to ensure that the adoption of intelligent technologies aligns with public expectations and regulatory requirements.

Overall, sustainability awareness in the context of intelligent technology involves not only understanding the benefits of technological adoption but also recognizing its risks and responsibilities. Organizations that embrace this holistic perspective are more likely to thrive in an increasingly competitive business environment.

The Role of Smart Technology in Decision Making

The role of intelligent technology in decision making is central to the functioning of modern organizations. As global markets become more complex and volatile, data driven decision making powered by intelligent systems is increasingly necessary for organizational survival and growth. Technologies such as AI, machine learning, predictive analytics, and integrated information systems provide powerful tools capable of generating insights that are faster, deeper, and more accurate than traditional analytical methods.

Intelligent technology enables real time data collection from diverse sources, including customer interactions, market analytics, social media engagement, internal processes, and IoT sensors. These data streams are processed through advanced algorithms, allowing leaders to make decisions grounded in current trends and future projections. As highlighted this capability allows decision makers to access timely, relevant, and comprehensive information that would be impossible to analyze manually.(Suryadi et al., 2023)

For instance, in the e commerce sector, AI driven systems can analyze purchasing patterns, customer preferences, and seasonal tendencies to predict which products will experience future demand. This empowers companies to optimize inventory, reduce wastage, and tailor marketing campaigns that resonate with customer behavior. Predictive insights enable managers to act proactively rather than reactively, giving organizations a strategic edge.

In addition to improving analytical capacity, intelligent technology contributes significantly to process automation. Systems such as AI chatbots can handle customer service interactions, while robotic process automation (RPA) supports administrative and operational workflows. By reducing human involvement in repetitive tasks, organizations can reallocate human talent to more strategic and analytical functions. This shift improves not only operational efficiency but also job satisfaction among employees who are freed from monotonous routines.

Another important contribution of intelligent technology is the reduction of human bias in decision making. Traditional decision making processes are often influenced by individual perspectives, emotional responses, or subjective judgment. AI technologies, when properly designed and monitored, rely purely on data and probabilistic models, leading to more objective and fair outcomes. This is particularly relevant in sensitive areas such as recruitment, promotion, and performance evaluation.(Saleem et al., 2022)

However, successful integration of intelligent technologies requires high quality data, skilled human resources, and strong technological infrastructure. Ethical considerations must also be addressed to ensure fairness, transparency, and accountability in automated decisions. organizations that fail to manage these aspects may experience technological failures, legal consequences, or loss of stakeholder trust.

Positive Impact on Decision Effectiveness

The findings of this study indicate that the integration of intelligent technology plays a critical role in enhancing the overall effectiveness of business decision making. The evidence collected from recent empirical studies strongly supports the argument that technological advancement particularly artificial intelligence (AI) and data driven systems substantially

improves organizational performance. One of the most striking findings comes from the work of who show that even a modest 1% increase in information technology utilization can result in a 59.2% improvement in decision making effectiveness. This remarkable figure highlights not only the efficiency of AI enabled tools but also the extent to which digital transformation has reshaped modern managerial practices.(Jamwal et al., 2022)

The positive impact of intelligent technology is primarily rooted in its ability to process large, complex datasets with exceptional speed and accuracy. AI systems provide managers with access to information that is far more precise, relevant, and up to date compared to traditional manual methods. This significantly reduces uncertainties, minimizes subjective judgment, and fosters decisions that are grounded in objective, evidence based analysis. In industries such as retail, manufacturing, logistics, and finance, AI powered predictive analytics have become vital in identifying customer preferences, monitoring shifting market conditions, and forecasting demand patterns. According to such analytical capabilities empower organizations to make well informed decisions that align closely with real time market dynamics.

Furthermore, intelligent technology strengthens organizational readiness through advanced scenario simulation. AI models allow managers to test potential strategies, assess associated risks, and explore alternative solutions before committing to a final decision. This proactive approach enhances strategic alignment across different divisions and helps organizations anticipate disruptions before they escalate into operational challenges. By enabling businesses to evaluate multiple outcomes simultaneously, AI helps build a more resilient decision making framework.

Operational efficiency also improves significantly with the adoption of intelligent technology. Tasks that previously required extensive human labor such as data collection, sorting, and reporting can now be automated effortlessly within seconds. This automation not only reduces workload but also frees employees to focus on tasks that demand creativity, negotiation, analytical reasoning, and high level problem solving. Consequently, human resources can be reallocated more strategically, leading to stronger innovation capacity and improved organizational agility. Despite these advantages, several challenges must be addressed to ensure the responsible and sustainable use of intelligent technology. Concerns related to data security, privacy, ethical risks, and algorithmic bias remain critical. Without proper regulation, AI systems may unintentionally reinforce discrimination or generate misleading outputs. argue that organizations need robust ethical frameworks, continuous system audits, and transparent governance mechanisms to maintain public trust and accountability. Overall, the results emphasize that while intelligent technology significantly enhances decision effectiveness, its implementation must be supported by strong governance, ethical oversight, and continuous evaluation. When managed responsibly,

intelligent technology becomes not just a tool for efficiency but a strategic asset that shapes long term organizational success.(Innuddin et al., 2022)

Challenges and Risks

Despite the numerous advantages of intelligent technology, organizations must confront several challenges and risks that accompany its adoption. One of the most significant concerns is data privacy and security. Intelligent systems often require large datasets, some of which may contain sensitive customer or employee information. Without adequate safeguards, organizations become vulnerable to data breaches and cyberattacks, which can result in severe financial losses and reputational damage. organizations must implement strong data protection policies and ensure compliance with legal standards.

Ethical issues also pose substantial challenges. AI algorithms can unintentionally embed bias, leading to unfair or discriminatory outcomes in areas such as recruitment, credit evaluation, and customer profiling. This phenomenon underscores the importance of transparent, explainable, and responsible AI design. Organizations must regularly audit their systems to ensure fairness, accountability, and ethical integrity, as mentioned.(Lamnatou et al., 2022)

Another obstacle is the readiness of human resources. Many businesses, particularly micro, small, and medium enterprises (MSMEs), struggle with limited digital literacy, insufficient training, and outdated technological infrastructure. These limitations hinder the effective adoption of intelligent technology. Uneven access to digital resources, including high speed internet, further widens the technological gap between regions.

Addressing these challenges requires collaborative efforts from governments, technology providers, and organizations. Governments must establish robust data protection laws and support digital literacy programs. Technology companies should create user friendly, affordable solutions for smaller businesses. Organizations themselves must cultivate a culture of adaptability and continuous learning to fully harness the potential of intelligent technology building human capacity is essential for sustainable technological transformation.(Olorunfemi et al., 2022)

Strategic Implications

The results of the analysis show that the strategic implications of intelligent technology in modern organizations are both transformative and multidimensional. Intelligent technologies such as artificial intelligence, big data analytics, the Internet of Things (IoT), and advanced management information systems reshape how organizations operate, compete, and innovate. When these technologies are integrated effectively into business strategies, organizations experience a substantial shift in performance

outcomes, particularly in productivity, operational efficiency, customer engagement, and long term competitiveness.

One of the most significant findings is the sharp increase in productivity facilitated by automation and intelligent data processing. Tasks that were traditionally slow, repetitive, or dependent on manual labor can now be executed with precision and speed. Intelligent systems improve workflow efficiency by reducing bottlenecks, predicting operational disruptions, and enabling managers to make real time, data driven decisions. These findings align with the argument of who emphasizes that intelligent technologies enhance supply chain coordination, demand forecasting accuracy, and targeted marketing strategies all of which directly contribute to higher output with fewer resources. As a result, organizations not only work faster but also optimize resource allocation and minimize delays.(Yang et al., 2021)

The study also reveals that cost reduction is a major strategic outcome associated with technological integration. Automated systems lower labor costs by reducing reliance on manual tasks and repetitive administrative work. Furthermore, the decline in human error significantly decreases costs related to product defects, service failures, and operational inconsistencies. Savings generated from automation allow companies to redirect financial resources toward innovation, capacity development, and strategic expansion. This reinvestment becomes crucial for organizations seeking to remain relevant and competitive in an era defined by rapid technological evolution.

Another important result is the improvement of customer satisfaction through intelligent customer management systems. AI powered CRM tools allow companies to understand customers at a deeper level by tracking preferences, analyzing behavior patterns, and predicting future needs. This enables businesses to offer highly personalized products, recommendations, and services. Additionally, the use of chatbots and virtual customer assistants ensures continuous support, reducing waiting times and increasing convenience. This shift toward personalization and responsiveness significantly strengthens customer loyalty and brand perception.

The final key finding relates to organizational agility and resilience. Organizations that adopt intelligent technologies are better equipped to anticipate market changes and respond proactively. Intelligent systems act as early warning mechanisms by identifying emerging trends and potential risks. This capability enhances innovation, allowing firms to experiment with new ideas, adjust business models, and embrace continuous improvement. As noted, the integration of technology fosters long term sustainability and strengthens competitive advantage by supporting adaptive, future ready strategies.

Overall, the results indicate that intelligent technology is no longer merely a tool for operational efficiency but a core driver of strategic

transformation. Organizations that invest in technological integration position themselves as resilient, innovative, and competitive players in global markets.

CONCLUSIONS

Integrating intelligent technology into the decision making process is a crucial strategic step for modern organizations seeking to survive and compete in the digital age. This technology enables fast and accurate data processing, increases operational efficiency, accelerates decision making, and improves its quality, based on objective evidence. The positive impact is significant in increasing productivity, reducing costs, and enhancing customer satisfaction and loyalty. However, implementing this technology is not without challenges and risks, such as issues of data security, privacy, algorithmic bias, and the readiness of human resources and technological infrastructure. Organizations must be able to develop strict data management policies and build a culture that can adapt to technological developments, including human resource training. With a well thought out implementation strategy and sound risk management, adopting intelligent technology will elevate organizations to a higher level of competitiveness, enabling them to be more agile and adaptable to market changes and technological trends. Ultimately, this technology is not just a supporting tool but a key to achieving future business success and sustainability.

REFERENCES

Abdullah, H., Md Zain, F. A., Tajuddin, S. A. F. S. A., Mohammed Foziah, N. H., & Ishak, M. S. I. (2025). Developing employee motivation index: McClelland and Maqasid Shariah. *Journal of Islamic Accounting and Business Research*, *16*(1). https://doi.org/10.1108/JIABR-07-2023-0235

Al Qur'an, M. N. (2025). An Islamic cultural analysis of managerial decision-making. *Journal of Islamic Accounting and Business Research*, *16*(5). https://doi.org/10.1108/JIABR-11-2022-0307

Hassan, M. K., Zulfikar, Z., Raza Rabban, M., & Atif, M. (2022). Fintech Trends: Industry 4.0, Islamic Fintech, and Its Digital Transformation. In *FinTech in Islamic Financial Institutions: Scope, Challenges, and Implications in Islamic Finance*. https://doi.org/10.1007/978-3-031-14941-2_6

Ibrahim, N., & Mahmod, S. (2023). The Disclosure of Zakat by Islamic Banks (IBs) and Development Financial Institutions (DFIs) in Malaysia. *The Journal of Muamalat and Islamic Finance Research*. https://doi.org/10.33102/jmifr.505

Innuddin, M., Rahman, D. F., Hairani, H., Anas, A. S., & Hasbullah, H. (2022). Sosialisasi Internet Sehat, Cerdas, Kreatif dan Produktif di Era Pandemi COVID 19 pada MA NW Tanak Maik Masbagek. *ADMA : Jurnal Pengabdian Dan Pemberdayaan Masyarakat*, *2*(2). https://doi.org/10.30812/adma.v2i2.1609

Ismail, M., Jan, S., & Ullah, K. (2023). Assessing Shariah Disclosure in Pakistan: The Case of Islamic Banks. In *Shariah Governance in Islamic Banking Institutions*. https://doi.org/10.4324/9781003324836-2

Jamwal, R., Jarman, H. K., Roseingrave, E., Douglas, J., & Winkler, D. (2022). Smart home and communication technology for people with disability: a scoping review. In *Disability and Rehabilitation: Assistive Technology* (Vol. 17, Issue 6). https://doi.org/10.1080/17483107.2020.1818138

Lamnatou, C., Chemisana, D., & Cristofari, C. (2022). Smart grids and smart technologies in relation to photovoltaics, storage systems, buildings and the environment. In *Renewable Energy* (Vol. 185). https://doi.org/10.1016/j.renene.2021.11.019

Oemar, H., Sumarto, S., Komariah, A., Djamaludin, D., & Tyaningsih, A. R. (2023). Improving the role and management of non-profit organizations of Islamic universities: A need analysis on data and information required in making decision at Baitul Maal UNISBA Bandung. *AIP Conference Proceedings*, *2824*(1). https://doi.org/10.1063/5.0158268

Olorunfemi, B. O., Ogbolumani, O. A., & Nwulu, N. (2022). Solar Panels Dirt Monitoring and Cleaning for Performance Improvement: A Systematic Review on Smart Systems. In *Sustainability (Switzerland)* (Vol. 14, Issue 17). https://doi.org/10.3390/su141710920

Ramli, N. A. A., Ahmad Bustamam, U. S., Abdul Shukor, S., & Salikin, N. (2023). UNLEASHING THE POWER OF MIZAN PRINCIPLES. *I-IECONS e-Proceedings*. https://doi.org/10.33102/iiecons.v10i1.28

Saleem, M. U., Usman, M. R., Usman, M. A., & Politis, C. (2022). Design, Deployment and Performance Evaluation of an IoT Based Smart Energy Management System for Demand Side Management in Smart Grid. *IEEE Access*, *10*. https://doi.org/10.1109/ACCESS.2022.3147484

Suryadi, D. F., Muis, M., Taba, M. I., & Hakim, W. (2023). The role of religion and social capital on employees' performance: An empirical study post Indonesia's Islamic bank merger. *Cogent Business and Management*, *10*(2). https://doi.org/10.1080/23311975.2023.2207676

Yang, Y. C., Ying, H., Jin, Y., Cheng, H. K., & Liang, T. P. (2021). Special issue editorial: Information systems research in the age of smart services. In *Journal of the Association for Information Systems* (Vol. 22, Issue 3). https://doi.org/10.17705/1jais.00673