



Artificial Intelligence & *Hikmah*

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Artificial Intelligence and *Hikmah*

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Foreword

One of the ultimate purposes of Islam, as the *deen* or way of life, is for a Muslim to achieve *hikmah*. The word *hikmah* can be loosely translated as wisdom. It is not easy to arrive at *hikmah*, unless the Muslim has (and maintains) a “pure” heart or *qalb salim*, i.e. a heart that is clean from hypocrisy or *nifaaq*, as it is the prerequisite for the absorption of ‘ilm or knowledge (which itself is a part of wisdom). Knowledge cannot be absorbed and thus comprehended when the heart is blackened with sins (as each sin will stamp a black dot on the heart). Sins, as mentioned by Al-Ghazali, are like oil that cannot be mixed with the water that fills the heart. The water purifies and cleanses the heart so that knowledge (which comes from Allah, and thus sacred) can be bestowed upon the Muslim.

In addition, deep contemplation of the tribulations faced throughout his life, i.e., looking at positive aspects of these incidents (and therefore maturity that comes with wide experience in life), is another important factor that enables a Muslim to grasp *hikmah*.

The abovementioned prerequisites are the traditional understanding of knowledge in the Islamic tradition. With the advent of artificial intelligence technology, the new challenge is whether such artificial intelligence delivers the knowledge that carries *hikmah* from the Islamic precepts with it? In other words, can it become a reliable tool for a Muslim in decision-making processes?

The process of exhaustive data analysis to conclude is the practice of artificial intelligence. However, can such an automated analysis be considered as a comprehensive analysis (and thus brings the best result) when the analysis is based only on these so-called “exhaustive” data, but in the process, it excludes the data that are available outside the cyberspace i.e. those data “*hikmatic*” data that can only be obtained from the mind of a Muslim scholar or *ulama*’?

Hence, the next debate in Islam is whether Muslims can get rid of these logical deductions of an *ulama*’ (who has strong knowledge in the Islamic precepts with a strong *iman* or belief in Allah and has acquired vast experiences in making decisions). In short, the combination of human reason and sacred revelation, together with vast life experiences, when compared

with the exhaustive data analysis from cyberspace. Which one should be trusted?

This prompts the question of trustworthiness. For the former, can a Muslim be confirmed that the *ulama'* that he is relying on is really a “true” *ulama'*? Has the *ulama'* reached the level of wisdom that enables him to reach *hikmah* as expected/required? A clear understanding of the term *ulama'* is another important matter. The term must not be confined to the field of the so-called “religious” studies only. In Islam, again, as the *deen*, supposedly, there is no dichotomy between Islamic studies and natural and human sciences.

All types of study fields must be in line with the Islamic precepts/worldview. Therefore, in decision-making, if a Muslim does not feel that he has the intellectual capacity to answer his questions, then he must refer to an *ulama'* who is an expert who can enlighten by delivering the extensive and in-depth knowledge (*hikmah*) relevant to the field.

Allah s.w.t says in the Holy Quran 2: 269 the meaning of which “And one who is given *hikmah* surely he has been given a lot of good, and many do not take heed except *ulul al-Bab* – those who use intellect” This means if the matter is related to economics, then he should refer to an economist that can deliver an analysis that is imbued with the *hikmatic* inputs. As the term *ulama'* means a wise men, hence, it does not apply only to theologians.

These are some of the challenges prompted by the advancement of artificial intelligence that require Muslims to rethink the extent of the debates in Islamic epistemology, particularly on the concept of *hikmah* as the pivotal point or premise that anchors the Islamic framework on the matter. This book is a result of such rethinking.

Zahid Zamri and Hamidon Abd Hamid.

December 2024

Preface

بسم الله الرحمن الرحيم

In the name of God, Most Gracious, Most Merciful.

Artificial Intelligence (AI) is changing the world, shaping how we work, live, and solve problems. From automating tasks to tackling complex challenges, AI offers great potential. However, this rapid progress raises ethical questions: Can AI be used responsibly? How do we ensure AI benefits everyone fairly? This book, **Artificial Intelligence and Hikmah**, explores these questions through the lens of **Hikmah**, an Islamic concept of wisdom that blends knowledge, ethics, and practical action.

Hikmah is about making thoughtful, balanced decisions that align with moral and spiritual values. When combined with AI, it provides a framework for creating technology that not only solves problems but also respects human dignity and ethical principles. By grounding AI in *hikmah*, we can design systems that are fair, transparent, and accountable.

This book looks at how *hikmah* can guide AI in different areas, like education, healthcare, cybersecurity, and governance. Each chapter shows how wisdom can help AI serve humanity better, ensuring it promotes justice and well-being. It also highlights the importance of Islamic teachings in shaping ethical technology, showing that science and faith can work together.

This book is a collaborative effort, involving the Centre for Islamisation and the Kulliyah of Information and Communication Technology, International Islamic University Malaysia. It stems from a need to contribute to providing some references on guiding the rapid development of AI from an Islamic perspective. This is much needed as various concerns are emerging within the society when looking into how fast and widely AI has affected the daily affairs of humans within a short period. We aim to inspire developers, educators, policymakers, and anyone interested in technology to think about AI's impact on society. We hope this book sparks conversations about using technology responsibly and wisely, guided by timeless ethical values.

In the chapters ahead, readers will see how *hikmah* can transform AI into a tool for good—creating a future where technology supports fairness, compassion, and harmony. Let this book be a guide for aligning innovation with the principles of wisdom and ethics.

Aznan Zuhid Saidin, Akram M. Zeki and Noor Azura Zakaria

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Finally, we express our gratitude to all **authors, reviewers, and colleagues** who shared their insights, ideas, and feedback. Their collective wisdom and dedication have enriched this book, and we hope it will inspire others to explore the intersection of technology and wisdom for the betterment of humanity.

May Allah accept this humble effort and make it beneficial for all. Ameen.

List of Abbreviations

(Selected)

AI:	Artificial Intelligence
AI4SDGs:	Artificial Intelligence for Sustainable Development Goals
AIoT:	Artificial Intelligence of Things
APT:	Advanced Persistent Threat
CPS:	Cyber-Physical Systems
CSIRTs:	Computer Security Incident Response Teams
CTI:	Cyber Threat Intelligence
DDoS:	Distributed Denial of Service
FAT:	Fairness, Accountability, and Transparency
GAI:	Generative Artificial Intelligence
GAN:	Generative Adversarial Network
GRC:	Governance, Risk, and Compliance
IDS:	Intrusion Detection System
IoT:	Internet of Things
IPS:	Intrusion Prevention System
KPIs:	Key Performance Indicators
ML:	Machine Learning
MLP:	Multilayer Perceptron (type of neural network)
NIST:	National Institute of Standards and Technology
NLP:	Natural Language Processing
OODA:	Observe, Orient, Decide, Act (Loop)
SMEs:	Small and Medium Enterprises
STIX:	Structured Threat Information Expression
TTPs:	Tactics, Techniques, and Procedures
XAI:	Explainable Artificial Intelligence
X-IDS:	Explainable Intrusion Detection Systems

Glossary

Accountability in AI: The responsibility to ensure that AI decisions can be traced back to developers or organisations.

Adaptive Security: Real-time adjustment of security systems to counter evolving cyber threats.

Artificial Intelligence (AI): Technology enabling machines to mimic human cognitive functions like learning and reasoning.

Blockchain: A distributed and secure ledger system used to record transactions and ensure data integrity.

Cyber Resilience: The capacity to prepare for, respond to, and recover from cyberattacks while maintaining operations.

Cyber Threat Intelligence (CTI): Information about potential or existing cyber threats used to prevent attacks.

Cybersecurity: Practices and technologies designed to protect systems, networks, and data from cyber threats.

Data Mining: Extracting patterns, trends, and insights from large datasets using statistical and computational techniques.

Deep Learning: A type of machine learning using neural networks to process vast amounts of complex data.

Digital Ethics: Principles guiding the responsible use of technology, including AI, to protect human rights and privacy.

Ethical AI: AI designed to align with human values, emphasising fairness, accountability, and transparency.

Ethical Decision-Making: The process of choosing actions that align with moral and ethical principles.

Faith-Based AI Ethics: Ethical guidelines for AI based on religious or spiritual teachings and values.

Generative AI: AI that creates new content, such as text, images, or music, by learning patterns from existing data.

Hikmah: Wisdom or sound judgment integrating ethical, moral, and spiritual principles in decision-making.

Human-Centred AI: AI systems designed to prioritise human values, dignity, and welfare in their operation and impact.

IoT (Internet of Things): A system of interconnected devices that collect and share data over the internet.

Islamic Epistemology: The study of knowledge from an Islamic perspective, focusing on the harmony between divine revelation and human reason.

Machine Learning (ML): A subset of AI that allows machines to improve performance by learning from data.

Natural Language Processing (NLP): AI focused on enabling machines to process, understand, and respond to human language.

Phishing: A cyberattack technique where fake messages deceive individuals into revealing sensitive information.

Predictive Analytics: Using AI to analyse data and predict future trends or behaviours.

Threat Detection: Identifying and mitigating potential cyber threats in real-time.

Ulul Albab: Quranic term for those endowed with intellect/wisdom, emphasising the use of knowledge in ethical ways.

Wisdom-Based AI: An AI framework guided by ethical, moral, and spiritual principles to promote human well-being.

Zero-Day Exploit: A cyberattack that exploits a software vulnerability before developers can address it.

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