



ISSN 2831-5049

Vol. 2, No. 2, 2023, p.79-102

journal.maqasid.org

DOI: 10.52100/jcms.v2i2.107

Received : Feb 15<sup>th</sup> 2023Revised : Mar 20<sup>th</sup> 2023Accepted : May 25<sup>th</sup> 2023

## Maqasid Al-Shari'ah and the Ethics of Artificial Intelligence: Contemporary Challenges

Mawloud Mohadi,<sup>1)</sup> Yasser M. A. Tarshany<sup>2)</sup>

<sup>1)</sup> Institute for Religious and Socio-Political Studies, Canada

<sup>2)</sup> Al-Madinah International University, Kuala Lumpur, Malaysia

<sup>1)</sup> mmohadi@maqasid.org <sup>2)</sup> yasser.tarshany@mediu.edu.my

### Abstract

Technological advancements in the twenty-first century, invigorated by the exponential growth of artificial intelligence (AI) technology, have ushered in a new era that provides many of us with amenities and comforts that were hitherto unattainable. But behind this progressive rhetoric of neo-liberalism, capitalism, and post modernism, artificial Intelligence development has also sparked an increasingly ambiguous ethical future, especially at the level of privacy, manipulations and others. This article provides a concise analysis of the concept of Maqasid al-Shari'ah and its relevance to AI ethics. This paper attempts to investigate the ethical contemporary challenges posed by the advancement of AI from the perspective of Maqasid-al-Shari'ah and ethic-based approaches. In this study, the qualitative approach was used to clarify the importance of Maqasid Al-Shari'ah and the ethics of artificial intelligence in light of the ongoing contemporary challenges. The article contends that Artificial Intelligence poses weighty ethical challenges related to privacy, manipulation and others which are vital values in Maqasid Al-Shari'ah. The paper concludes that ethical considerations should be incorporated into the development and usage of Artificial Intelligence. The paper paves the way future attempts to analyse alternative ethical paradigms for Artificial intelligence in general, based on a comprehensive Islamic ethic-based approach founded within the context of maqasid which can represent a constructive contribution to the worldwide discourse on the ethics of Artificial Intelligence.

**Keywords :** artificial intelligence; maqasid al-shari'ah; Islamic ethics, purposefulness.

### المخلص

أدت التطورات التكنولوجية في القرن الحادي والعشرين، المدعومة بالنمو الهائل لتكنولوجيا الذكاء الاصطناعي، إلى بزوغ عصر جديد يوفر للكثير من البشر وسائل الراحة والرفاهية التي لم يكن من الممكن تحقيقها ولا تخيلها في العقود الماضية. إلا أنه وراء هذا الخطاب التقدمي لليبرالية الجديدة والرأسمالية

Corresponding Author

Name : Mawloud Mohadi

Email : mmohadi@maqasid.org

وما بعد الحداثة الذي أدى تطوير الذكاء الاصطناعي مسبقاً أخلاقياً يبدو غامضاً بشكل لافت، لا سيما على مستوى الأمور الخصوصية والتلاعب وغير ذلك. تقدم هذه المقالة تحليلاً مختصراً لمفهوم مقاصد الشريعة وصلته بأخلاقيات الذكاء الاصطناعي. تحاول هذه الورقة كذلك الغوص في التحديات الأخلاقية المعاصرة التي يطرحها تقدم الذكاء الاصطناعي من منظور مقاصد الشريعة والأخلاق الإسلامية. اتبعت هذه المقالة المنهج الاستقرائي النوعي لتوضيح أهمية مقاصد الشريعة وأخلاقيات الذكاء الاصطناعي في ظل التحديات المعاصرة اللامنتهية. يؤكد المقال في ثناياه أن الذكاء الاصطناعي يفرض تحديات أخلاقية كبيرة تتعلق بالخصوصية والتلاعب وغير ذلك من التحديات التي وجب الحفاظ عليها في ظل القيم والأخلاق من منظور مقاصدي. تخلص الورقة إلى أنه يجب دمج الاعتبارات الأخلاقية في تطوير واستخدام الذكاء الاصطناعي؛ كما تستشرف المحاولات المستقبلية لتحليل النماذج الأخلاقية البديلة للذكاء الاصطناعي بشكل عام بناءً على نهج شامل قائم على الأخلاق الإسلامية في سياق المقاصد، والذي يمكن أن يكون بمثابة مساهمة بناءة في الخطاب العام حول أخلاقيات الذكاء الاصطناعي.

**الكلمات المفتاحية:** الذكاء الاصطناعي؛ مقاصد الشريعة؛ الأخلاق الإسلامية؛ منظور مقاصدي.

## Introduction

The power of traditional technology has been significantly increased by recent developments in machine learning (ML) and artificial intelligence (AI), which are powered by the capacity to process massive volumes of data, identify patterns and make predictions. There are now rising concerns over the harms that can be caused by these technologies referred to as “weapons of math destruction” (O’Neil, 2016). However, the use of Artificial Intelligence based on data processing and other related issues has been argued by numerous authors to not be neutral or without potentially detrimental side effects (Latif et al., 2019).

Throughout recent years, several technologies and advancements such as nuclear power, robotics, and others have caused diverse political, social, religious, and ethical debates and discussions to address the course and trajectory of these technologies, especially as counter-responses against inflicted damage. Subsequently, philosophy and ethics are particularly interested in how the new technologies undermine the established norms and conceptual frameworks within societies. Therefore, comprehending technology in its context allows us to design appropriate responses including laws and regulations. The new artificial intelligence technology shares all of these characteristics and features which created a concern that it could terminate the era of human dominance on earth (Müller, 2021).

It is observable that the term “AI” historically, was used between 1950 and 1975, then it came into disregard during the so-called “AI winter” between 1975 and 1995. As a result, fields like “machine learning,” “natural language processing” and

“data science” were not always considered among the artificial intelligence areas. Yet since roughly 2010, the definition has again stretched, and today nearly all computer science and high-tech developments are grouped under the umbrella term “AI” which represents an industry with significant and gigantic capital and investments (Müller, 2021).

Islam as a religion and a way of life exerts a great concern with ethics, even in this digital age, where it has become mandatory to observe ethics in artificial intelligence to achieve the higher objectives of Islamic Shari’ah. Ethics or morals in Islam are the fruits of faith; piety in Islam is based on a strong belief in the truth revealed by Allah SWT which represents the essential means to improving one’s morals and good ethics by following the example of the Messenger of Allah SWT (Anggilia et al., 2021). This article claims that despite the stunning advancement humanity witnessed through artificial intelligence, there seem to exist several challenging unethical behaviours and practices in the digital world.

Activities that are worth mentioning in the domain of computer ethics for instance are piracy, intellectual property violation, hacking, digital forgery, online gambling, chatting, pornographic materials, plagiarizing, privacy violation, violent computer games and others. (Azhar Abd Aziz et al., 2011). From an Islamic standpoint, ethics must be considered in the digital world, yet the definition of what is ethical and what is not has conventionally changed in contemporary times. In the era of globalization, when email marketing and the use of personal data for instance has turned into constant spamming and privacy abuse, which do not seem to matter as much to a person as the experience of using a particular website. Whatever people use and share online has been normalized to the extent that someone else can look into it and use it without accountability or responsibility. Islam does not legitimize a particular unethical practice for people as long as it provides them with some personal benefit and soothes their experiences (Karan Singla et al., 2017: 374).

### **The Concept of Ethics in Islam**

The concept of *akhlaq* is deeply rooted in the Islamic tradition, the Arabic term *akhlaq* is literally translated in English as “ethics”.<sup>1</sup> The term *khuluq* is mentioned twice in different verses of the Holy Qur’an (al-Shu’araa: 137, and al-Qalam: 4). According to Imam al-Qurtubi (d.1273 C.E) in his tafsir, the expression ‘*khuluq al-awalin*’ as mentioned in the Qur’an means: “their ancient customs and it includes religion, character, ideology, or doctrine.” (Al-Qurtubi, 1964, vol.14, p. 85). There is also another term that is usually utilized interchangeably with *akhlaq* and that is *adab*, which means good manners, attitude, behaviour and the etiquette of putting

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<sup>1</sup> The English term ethics has the same connotations as the term *akhlaq*. The term ethics (Middle English *ethik*, from Old French *ethique*, from Late Latin *Ethica*, from Greek *Ethika*- ethics, or *ethikos*, ethical, from *ethos*), literally denotes character, custom, habit, behavior, human conduct, or attitudes. While on the other hand the Latin word “*mores*” which is the root of morality, is almost literally a synonymous term with the word *ethos*. Hornby, A.S. (1974). *Oxford Advanced Learner’s Dictionary of Current English*, London: Oxford University Press.

things in their proper place. Even though these two words are used interchangeably, some scholars claim that there are some fundamental differences between *akhlaq* and *adab* at the level of source and application and source (Ibn Maskawayh, 2011).

Conceptually, *akhlaq* comprises two meanings: firstly, *akhlaq* (ethics) refers to the science that deals with the paradigms of right and wrong in human conduct, particularly “what humans are supposed to do” (Shah Haneef, 2005, p.31); secondly, *akhlaq* means “good character” or good human behaviour which draws attention to the human character that advocates refraining from immoral conducts such as corruption, discrimination, lying, murder, slander etc., and enjoining virtues of honesty, truthfulness, compassion, sincerity and others (Zaroug, 1999). As such, Islamic ethics or *akhlaq* refers to the universal standards that guide humans to right and wrong in line with the Holy Qur’an and the exemplary life of the Prophet (PBUH) (Zaroug, 1999).

Islamic ethics is established upon the world view that people are trustees and hold the responsibility of being vicegerents (*khulafaa*). Accordingly, human existence on earth is part of the divine plan of Allah SWT who delegated them to manage and improve life on earth (*i’mar*) based on the revelation (*wahy*) (The Holy Qur’an, 11:61). The Holy Qur’an also mentions that Allah has bestowed upon man different qualities of intellect, free will, and guidance in order to fulfill the purposes of *khilafah* which signifies a commissioned duty and responsibility to be carried out to achieve *ta’mir* and *islah*. Therefore, within the framework of *khalifah* (trustee), *ta’mir* (improvement), and the concept of *taskheer* and *musakhar* (stewardship), mankind has an obligation and duty to constantly and efficiently strive to live and improve the quality of life. Hence, this understanding makes human conduct ethical only through contributing to the improvement of life in line with Islamic teachings. This makes the Islamic ethical paradigm divine, transcendental, universal, and principle-based.<sup>2</sup>

### **The Paradigm of Ethics and Maqasid al-Shari’ah**

The concept of Maqasid al-Shari’ah (plural) is linguistically derived from the term ‘*maqṣad*’ which means the purpose or objective of Islamic law. According to Ibn ‘Āshūr, Maqasid al-Shari’ah refers to the general objectives of Shari’ah or what he calls *maqāṣid ‘āmmah* that encompass deeper meanings (*ma‘ānī*) and pearls of wisdom (*ḥikam*) that lawmakers devised concerning all or most of the rules of Shariah (Ibn ‘Āshūr, 1998). Al-Zuhayli, a contemporary Muslim scholar defined *maqasid* as the ultimate goals, purposes, and meanings maintained and advocated by the Islamic Shari’ah through its laws and regulations which should be realised and manifested at all times and places (Al-Zuhayli, 2003). Al-Shatibi viewed

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<sup>2</sup> For further discussion on the characteristics of the Islamic ethics see: Abdullah Hassan Zaroug, (1999). “Ethics from an Islamic perspective: basic issues”. *American Journal of Islam and Society*, 16(3), 45-63. Majid Fakhry, (1991). *Ethical Theories in Islam*. Islamic Philosophy, Theology, and Science, 8. Leiden, New York, Copenhagen & Köln: EJ Brill.

*maqasid* as the wisdom behind the law or a decree to ensure the realisation of *maslahah* (benefit) for humankind and avoid *mafsadah* (harm) in this world or in the hereafter (Al-Shatibi, 2004).

In Islamic ethics, the Holy Qur'an and the Sunnah (prophetic traditions) are of utmost importance, and the Sunnah is the guide to how the Qur'an should be understood and comprehended. We can observe numerous virtues and ethical values originating in the Holy Qur'an mentioned in the prophetic traditions, which are indirectly or directly related to *tawhid* (the oneness of God). *Tawhid* as a concept extends itself to the fundamentals of the Islamic creed also known as '*aqidah*' which is the system of practice, and also to the obligations and prohibitions. Toshihiko Izutsu in his analysis of the Islamic system puts forward a paradigm of the Islamic ethical system. He represents what he referred to as the "great moral dichotomy" that separates believing in one God (*tawhid*) from other beliefs or religious systems. In Islam, *tawhid* is a structure and a paradigm of values which differentiates *iman* (faith) from *kufr* (divine disbelief). It then stretches and substantiates the notions of good and evil, *islah* (bettering or improving) and *ifsaad* (corrupting), of '*adl*' (justice) and *dhulm* (injustice), of *tazkiyah* (purification) and *fisq* (perversion) (Izutsu, 2000).

In The Moral World of the Qur'an, Muhammad Draz proposed a different paradigm completely positioned within the system of Islamic values. Draz gives the greatest eminence to the idea of *faridhah* and *mas'uliyah* or obligation and responsibility upon which all moral doctrines are founded (Draz, 2008). This paradigm is founded upon the notions of Islam and the scriptural sources that represent ethics in Islam through the faculty of reason essential to understanding the "obligation" and "responsibility." According to him, a superior source of reason (Allah) is the only one capable of providing coherence and harmony to the whole system and edifice of morality (Draz, 2008). Draz's perception begins with initial responsibility and is formulated around freedom, sanction, intention, and effort as applied to every sphere of applied ethics at the individual, family, social, state, and religious levels (Draz, 2008). Accordingly, Maqasid al-Shari'ah in its entirety reflects a holistic view of Islam because it represents a complete and coherent guide to the life of all individuals and communities.

### **Discussing Ethical Challenges in the Usage of Artificial Intelligence: Privacy and Manipulation**

In this section, we discuss the moral dilemmas associated with using robots and artificial intelligence for human purposes. Since some applications of these technologies give rise to more ethical problems than others, we focus on those. However, it is important to remember that technology will always make some uses simpler and more common while making other uses more difficult.

Thus, the creation of technical artifacts has ethical implications for us and as a result, in addition to "responsible use," this field also requires "responsible

design.” The emphasis on usage makes no assumptions about what ethical theories are most appropriate for addressing these problems; they may well be virtue ethics rather than consequentialist or value-based theories. This section is likewise unaffected by the debate over whether artificial intelligence systems actually possess 'intelligence' or other mental abilities. It would still hold true if artificial intelligence and robotics were only viewed as traits of automation. (Müller, 2021).

The first ethical issue that needs to be discussed in this paper is privacy. There is widespread discussion on privacy and surveillance in information technology (Macnish 201, Roessler 2017), which focuses mainly on access to confidential data and individually identifiable data. Many well-known principles of privacy exist, including “the right to be left alone,” information privacy, privacy as a component of personhood, control over one's own personal information and the right to confidentiality (Bennett & Raab 2006). Studies on privacy have traditionally concentrated on the state's employment of secret services to monitor its citizens, but they have recently expanded to cover other state agents, enterprises and even individuals. The outcome is a certain amount of anarchy that the most powerful actors take advantage of, sometimes in plain sight and sometimes in secret, as a result of the huge changes in technology over the past few decades and the tardy response of legislation (Roessler 2017).

The scope of the digital world has dramatically expanded: all data gathering and storage is now digital; our lives are becoming more and more digital; most digital data is connected to a single Internet; and more and more sensor technology is being used to provide data about non-digital parts of our lives. Both the potential for intelligent data collection and the potential for data analysis are increased by artificial intelligence. Both traditional targeted monitoring and population-wide surveillance are covered by this. A lot of the data is also exchanged between agents, typically in exchange for payment. In contrast to the analogue world of paper and phone conversations, it is considerably more difficult to manage who gathers what data and who has access in the digital world. Data collection, sale and use are shrouded in secrecy. (Müller, 2021)

Our 'free' services are funded by the data trail we leave behind, but we are not informed of this data collecting or the worth of this fresh raw material, and we are coerced into leaving even more of this data. The 'big 5' firms (Amazon, Google/Alphabet, Microsoft, Apple and Facebook) tend to rely heavily on manipulation, deceit and the use of human flaws to promote their data-gathering efforts. In this “surveillance economy,” social media, video games and the majority of the Internet are primarily used to attract, hold and direct attention, which in turn increases the amount of data (Harris 2016).

These problems are made worse by numerous new AI technologies. Face recognition in images and videos, for instance, enables identification and consequently profiling and searching for individuals. This continues to use various identification methods, such as “device fingerprinting,” which are ubiquitous on the

Internet (and occasionally disclosed in the “privacy policy”). Robots are programmed to be part of data collecting which offers more detailed information of different types in an extensive manner with the widespread use of the so-called ‘smart’ systems (phone, TV, oven, lamp, virtual assistant, home, ...), the ‘smart city’ (and ‘smart governance’ etc. (Sennett 2018). Eventually, these systems frequently reveal information about us that we would prefer to conceal or are unaware of because they are more familiar with us than we ourselves are. In his best-selling book *Homo Deus* (2016), author Y. N. Harari poses the following question regarding the long-term effects of artificial intelligence: “What will happen to society, politics, and daily life when non-conscious but highly intelligent algorithms know us better than we know ourselves?” (Harari, 2016)

In essence, this “business model of the Internet” which has also been referred to as “surveillance capitalism” is known also as the monitoring and attention economy. It has prompted numerous attempts to break free from the control of these corporations, such as the minimalism or open-source movements, but it seems that modern citizens no longer have the level of autonomy required to do so while still carrying on with their daily lives and employment. If 'ownership' is the appropriate relation here, then we no longer possess ownership of our data (Schneier, 2015, Zuboff, 2019).

Today, a mainstay of data science privacy-preserving methods that can largely mask an individual's or group's identity include (relative) anonymization, access control (plus encryption), and other models where computation is carried out with fully or partially encrypted input data. In the case of “differential privacy,” this is accomplished by encrypting the results of queries by adding calibrated noise (Abowd 2017). These methods can prevent many privacy concerns, but they also take more time and money. Better privacy has also been viewed by some businesses as a competitive advantage that can be used and sold for a fee.

The actual enforcement of regulations, both at the state and individual claimant levels, is one of the main practical challenges. They must locate a court that has declared itself competent, identify the accountable legal entity, demonstrate the activity and maybe demonstrate intent, and eventually, persuade the court to actually carry out its ruling. Digital items frequently lack or are difficult to enforce with regard to well-known legal rights protections like intellectual property rights protection, product responsibility protection, and other civil liability protections. As a result, businesses with a “digital” heritage are accustomed to thoroughly safeguarding their intellectual property rights while testing their products on customers without worrying about liability (Muller, 2020).

In brief, our data gathering about users and populations is constantly expanding, to the point where these systems and their owners know more about us than we do. We, users, are misled into submitting data because we cannot stop the data collecting and are unaware of how the data is accessed and used. Due to our inability to locate a legal organization and hold it accountable, we are even unable

to exercise our legal rights. Therefore, we have lost control over our own personal details and the scandal of the surveillance economy has not yet acquired enough public attention.

Manipulation is another discussable ethical issue related to Artificial Intelligence. The use of information for questionable objectives is one of the ethical concerns within Artificial Intelligence surveillance, which extends beyond the simple collection of data and focus of attention. One of these is the practice of online and offline money-focused manipulation. Of course, there have always been attempts to influence behavior in a way that interferes with autonomous rational choice, but using AI systems may give them a new dimension. We are susceptible to 'nudges', manipulation, and deceit, giving consumers close connection with data systems and the deep knowledge about persons this affords. With enough prior information, algorithms can be used to specifically target individuals or small groups with the kind of input that is most likely to have an impact on these particular people (Jobin, 2019).

Several marketers, advertisers, and online merchants will employ any legal strategy at their disposal, including the use of 'dark patterns' on web pages or in Ethics of Artificial Intelligence 7/20 games to exploit psychological biases and create addiction (Costa & Halpern 2019). Such manipulation is a common business strategy in the gambling and gaming sectors, but it is also becoming more prevalent in other sectors, like low-cost airlines. Online manipulation and addiction are not as strictly regulated as gambling or the sale of addictive substances (Mathur et al, 2019). The manipulation of online behavior is evolving into the Internet's primary business model.

In addition, political propaganda is now mostly spread through social media. As in the Facebook-Cambridge Analytica "scandal," this influence can be used to influence voting decisions, and if it is successful, it may undermine people's autonomy (Susser et al, 2019).

Digital images, audio recordings, and videos have already experienced this transformation due to improved AI "faking" technology. It will soon be simple to produce (rather than alter) 'deep fake' written content, image, and video material with any desired content. In the near future, sophisticated real-time communication with people by text, phone or video will also be falsified. As a result, even if we depend on digital connection more and more, we cannot trust it.

The regulation of privacy and manipulation is lagging behind societal and technological advancements. Business lobbying, secret services and other governmental agencies that rely on monitoring put great pressure on civil liberties and the defence of individual rights. Compared to the pre-digital era (of letters, analogue telephones and oral conversations), the actual legal protection from surveillance and manipulation has drastically decreased. Although the EU's General Data Protection Regulation (GDPR 2016) has somewhat improved privacy protection, the US and China prefer growth with fewer regulations, probably in the



hope that this will provide them with a competitive advantage. It is evident that state and corporate actors are better able to observe and control people thanks to AI technology, and they will keep on doing so to enhance their own goals unless a policy is put in place that serves the interests of society as a whole (Muller, 2021).

There are other important issues related to ethics in the usage of artificial intelligence that we can name in this section such as opacity and bias, deception, and uncountability which are worth exploring and discussing in future research works.

### **Ethical Challenges and the Impact of Artificial Intelligence on Human Choice and Society**

The widespread adoption of digitalization across a wide range of industries has lately given rise to what is known as the “fourth revolution” which highlighted the rapid digitalization of our contemporary reality and underlined the world we live in that is becoming increasingly data-based. Our reality has been subtly distorted by the extensive use of artificial intelligence and digital technologies, both online and offline. In fact, we see that practically every aspect of reality, both intangible and tangible, has been codified and datafied, from people's traits, behaviours, and appearances to their personal ideas, beliefs, interactions, and values. As a result, a vast amount of data on individuals, their intimate connections, and the complexity and generality of the world may be used to capture, modify and share almost anything (Floridi, 2014).

Machine learning (ML) and deep learning (DL) algorithms, which are probabilistic models fed and trained by data we directly enter online (i.e. provided data), the online trails we leave behind us indirectly (i.e. observable data), and those derived and inferred by computer algorithms, are driving such datafication process and the digitalized space (infosphere) it envelops (Floridi, 2014). In order to profile and categorize online users and predict a range of value-laden (often choice-driving) elements including deep preferences, needs and vulnerabilities all the way up to religious, sexual and political orientation that are capturable directly or by association or affinity, profiling ML is one of the most commonly used techniques to rule ICTs (Tiribelli, 2022).

This type of profiling and predicting capability characterizes what is known as algorithmic “agency” which can be produced by the connection (technically speaking) of limited tasks-oriented ML algorithms. It also demonstrates the potential to produce novel choice-architectures that have the potential to change the social, environmental and structural conditions of our informational societies, including how we perceive our reality and how we interact with, consider and comprehend one another.

This is because algorithms act as information gatekeepers in our information world. Algorithms select, categorize and customize the content presented to us. Information, according to Google search is generally considered and

organized based on its initial classification or codification. Therefore, for instance, the first result you see is tailored specifically to each person's profile and is probably the first or absolute thing you'll see (Shapiro, 2002). How does this affect human autonomy? The question is whether these pre-defined, algorithmically selected information content or information possibilities are directly or indirectly related to the topics in question and ultimately, it strongly influences our knowledge and perspectives on the topic we are looking for, that is, the epistemological level of human autonomy, the epistemological dimension of our autonomy and decision-making (i.e. the state of knowledge).

In other words, the algorithm pre-selects and determines what is meaningful to the individual based on the profiling task. This is often driven by third-party goals or decisions, and can be the underlying motivation for different options of action. The range of “meaningful” options is based on parameters that are highly opaque to users, and prioritization of economic interests can lead to disagreements and disrespect of people’s true goals and objectives (Pascale, 2015).

Looking at this argument on a larger scale, we can rightly argue that the invisible actions of ubiquitous algorithms are changing our information environment. Three key elements: a. Survey relevance (content-based filtering); b. Profiled individual's profiled preferences (and those associated with the preferences and choices of others, i.e. collaborative filtering); and c. Maximize pre-set goals (CTR: click-through rate) the most frequently sponsored informational content. Accordingly, we can say that AI techniques have an invisible, subtle but pervasive effect on our autonomy - specifically at the epistemological level of our autonomy, which is the level of autonomy as authenticity characterizing the process of formation of individuals' beliefs, reasons, values and actions, and on our ability to self-determine our choices and actions in accordance with reasons and motives that are somehow our own as chosen in a context of meaningful options.

Algorithmic choice-architectures, which primarily work by filtering, categorizing, and customizing informational materials and representing the design of ubiquitous digital ICTs, might be shown as presenting a potential algorithmic hindrance to individual autonomy at the epistemological scale, pre-selecting data that affects the options that people can endorse as the motivations for their decisions, behaviors, and identities. In other words, it involves influencing those informational options. This epistemological impact that algorithms have on human autonomy restricts people's ability to make decisions by tying informational options, and thus the potential motivations that people might support for their decisions and actions, to a particular space of information that algorithms have predefined through predictive profiling.

It is quite apparent that society faces significant issues as a result of Artificial Intelligence. The workforce is one of the negative effects of Artificial Intelligence. Many jobs have been displaced by machines and robots as a result of the increased usage of technology. According to a 2019 survey by Granulo, Fuchs,

and Puntoni, most businesses prefer to use machinery over human labour (Au-Yong-Oliveira et al, 2019).

As a result, workers of some industries and machinery, to some extent, no longer have and will find it even more challenging to find their respective source of income and are thought to be unable to handle daily life, which has brought up the issue of economic instability on a global scale. Using social networking sites like Facebook, Twitter, Whatsapp and Instagram also leads to incidences of personal data infiltration. These are the potential dangers posed by AI technology to the security of user data. One such instance occurred during the election of President Trump in the United States (Gonzalez, 2017), as well as in a number of other nations such as Argentina, Nigeria, Kenya, India, and the Czech Republic (Posetti & Matthews, 2018).

The 13th General Election (GE13) results in Malaysia are also suspected of being tampered with utilizing voter personal information by outside parties (Welsh, 2018). These instances of manipulating personal data with artificial intelligence have the potential to inadvertently influence voters' attitudes and tendencies towards particular political parties. Security around the world has also been jeopardized by AI technology malfeasance. The Uighur ethnic minority, which is a significant Muslim community in China, was recently detected, tracked and controlled using AI technology in facial recognition systems (Mozur, 2019; Byler, 2019).

The problem is categorized as an “existential threat to democracy” by The New York Times (Mozur, 2019). According to a study by Mehta, Siddiqui, and Javaid (2019), AI technology is now employed to 'read' people's emotions and behavior as well as their faces. Therefore, it should not come as a surprise if this kind of technology is used to oppress particular groups of people based on their skin tone, race, nationality, gender or even religion. Furthermore, it is highly unlikely that AI technology will result in unfair or biased output because it primarily relies on algorithms, instruction lists, and shortcuts to tell computers what to do (Silva & Kenney, 2018).

Data analysts have additionally verified that AI machine learning algorithms, networks and programs all learn how to behave based on the input. However, it is still not flawless as there have been instances where it has not worked properly. For instance, algorithms that failed to distinguish between the white tractor side and the bright sky behind it were a contributing factor in tragic incidents employing Tesla self-software (Mackie, 2018).

Similar algorithms can be found in Google Photos and Flickr apps, which have mistakenly been associated with racist photographs (Grush, 2015; Hern, 2015), as well as in gender-biased machine translation systems (Prates; Avelar and Lamb, 2019). These demonstrate the limitations of depending on algorithms for artificial intelligence to make judgments and are feared to have an impact on life, particularly when it comes to issues of ethics and the law. The capacities of AI technology at the

AGI and ASI levels, which can outperform human capabilities, are of even greater concern. The AI system can now create its own algorithms and is no longer dependent on humans for algorithmic coding.

Elon Musk, Bill Gates and Steve Wozniak are among the Artificial Intelligence developers who are worried about this occurrence (Bundy, 2017; Helbing, 2019; Walsh, 2016). The rapid advancement of AGI and ASI technology which can surpass human intelligence is of worry (Müller & Bostrom, 2016). In fact, Stephen Hawking expressed similar worries when he foresaw the harm to mankind posed by the development of superhuman AI or ASI technology that was not under human control (Vyas et al, 2018).

When discussing the impact of artificial intelligence, we typically focus on how it will affect people and certain industries, rarely discussing how it will affect the environment. However, studies have revealed that developing AI models have a negative impact on the environment because of its high carbon footprint. According to a study conducted by scientists at the University of Massachusetts, Amherst, training big Natural Language Processing (NLP) human language models can result in the release of more than 600,000 pounds of carbon dioxide over their lifetime, which is “five times the emissions of an average American car” (Hao, 2020, 5). The data centres use over 200 terawatt hours (TWh) of energy annually, which is greater than the country's average energy consumption in some counties (Jones, 2018).

There are additional costs associated with artificial intelligence that far too frequently go unrecognized in addition to those associated with the environment. Think about the price that underprivileged communities must pay for injustice, for instance. We have previously discussed how AI systems can exhibit biases toward women and people of colour. Other cases of bias and algorithmic oppression are pointed out by Mohamed et al (see, for example, “Facial recognition systems fail to recognize black faces; speech detection models classify black vernacular as toxic” (Mohamed et al, 2020, 667). Similar instances of algorithmic blunders affecting black people and women are highlighted in the book *Algorithms of Oppression*. One of the examples from the book illustrates how Google Search's autosuggestions tool is sexist since it proposes the following when you type “Women should”: “stay at home”, “be controlled”, “be in the kitchen” etc. (Noble, 2018, 15). Similarly, in another instance, when searching for “black women”, the search results showed links to pornographic sites (Noble, 2018, 4).

Additionally, there have been instances where artificial intelligence has led to the exploitation of underserved audiences. Organizations go to other nations as testing grounds for beta-testing<sup>2</sup> of applications; often, these are low- or middle-income nations or those with vulnerable populations because they lack restrictions regarding the data and its use (Mohamed et al, 2020, 667). In addition, a Chinese company employs low-wage individuals to annotate and categorize photographs that are fed into algorithms for machine learning (Yuan, 2018). In Finland, inmates carry out the same work (Chen, 2019). The safety and working conditions of these so-called

“ghost workers,” who are paid at a very low rate are way beyond low (Mohamed et al, 2020, 668 ). It is significant to highlight that although some members of the population experience loss as a result of exploitation and tyranny, others place their expectations on getting something that is not even promised.

### **The Concept of Maqasid Al-Shariah and its Relevance to Artificial Intelligence**

Artificial Intelligence is a rapidly growing field that has the potential to revolutionize various aspects of human life. However, as with any new technology, there are concerns about its impact on society and whether it aligns with Islamic values. Maqasid Al-Shariah, or the objectives of Islamic law, can provide a framework for evaluating the relevance of Artificial Intelligence to Islamic principles. The preservation of religion, life, intellect, property and dignity are among the broad aims and objectives of Islamic law, which are referred to as Maqasid Al-Shariah. The ethical framework for Artificial Intelligence is built on the moral precepts that result from these goals (Kamali, 2008).

Artificial Intelligence is now widely used in many industries including healthcare, banking and education as a result of its quick development. Even though Artificial Intelligence has many advantages, it also presents a number of ethical problems including issues with privacy, the accountability of AI systems, and how Artificial Intelligence affects jobs and the labour market. A thorough ethical framework that can direct the development and application of Artificial Intelligence is necessary to address these concerns. (Yuqi et al, 2020).

The contact between people and CAs, and occasionally even the presence of virtual agents like in-home, always-on gadgets, raises a number of ethical and legal issues, such as what information is gathered, who has access to it, how long the information is held, and where and how it is utilized. The gathering of user data generates a variety of privacy issues, some of which have a legal foundation and are handled by regionally distinct data protection legislation, such as the GDPR in Europe. Of vital importance is the protection of private information and security measures against data storage, use and access by unauthorized parties (Ruane et al., 2019).

Depending on the domain in which the agent is deployed and the degree of vulnerability of the user group, the nature of these ethical dilemmas changes dramatically. We do, however, suggest that in this area where the default strategy should be to collect and preserve user data if necessary for the delivery of the specified service and done in a transparent manner, clear legal requirements should be considered as a baseline, not a target. User privacy is crucial and becoming more crucial as AI systems are implemented in more spheres of society and are used to make judgments that are more significant and far-reaching. As a result, the idea of privacy should be seen as a larger social issue rather than solely a problem affecting the individual user (Ruane et al, 2019).

The individual user is often not given the chance or lacks the resources to negotiate the terms and conditions that companies have created in a way that applies to everyone. Therefore, it is important to take into account how the introduction of AI systems may affect society as a whole when deciding how to think about and govern privacy. With the support of this viewpoint, privacy can be rethought in a way that connects it to broader societal objectives and concerns (Ruane et al, 2019). Additionally, we must protect workers' right to informational privacy, their right to their private lives, and their right to give their informed consent before disclosing any information (Longo, 2020).

The relevance of Maqasid Al-Shariah to Artificial Intelligence stems from the fact that Artificial Intelligence has the potential to impact various aspects of human life including personal privacy, employment and social justice. These principles can be applied to the development and deployment of Artificial Intelligence, providing guidance for ethical decision-making in the use of Artificial Intelligence. It is therefore important to ensure that Artificial Intelligence is developed and deployed in a manner that is consistent with the ethical principles derived from Maqasid Al-Shariah (Bendebka, 2022).

The protection of people's rights, particularly their right to privacy, is one of the main goals of Maqasid Al-Shariah, the Islamic legal system. Artificial intelligence is being used more and more, therefore it is critical to think about how this technology can affect privacy and to establish plans for keeping it protected in the Artificial Intelligence era. In the context of Artificial Intelligence, the gathering and use of personal data is a significant concern. Large volumes of data, including sensitive personal information like financial information, health information and location data, can be processed by AI algorithms. Important privacy concerns are raised because the use of this data for decision-making may have a big impact on people's life (Anderson & Rainie, 2016). This also falls under the objective of preserving dignity where Artificial intelligence should not be used in ways that violate human rights or dignity, such as facial recognition technology being used for surveillance purposes without consent or discrimination based on race or gender. Maqasid Al-Shariah emphasizes the importance of treating all individuals with respect and dignity, and Artificial Intelligence should be developed and used in ways that align with this principle. (Hallaq; Mohadi, 2022).

The ethical ramifications of data collecting, processing and use are major obstacles in the development and application of Artificial Intelligence. With the growing usage of Artificial Intelligence, it is critical to think about how data is gathered, processed and used, and to make sure that these actions adhere to moral standards. It is crucial to take into account these implications and ensure that data is acquired, processed, and utilized in a way that is consistent with ethical principles, because the ethical implications of data collection, processing and usage are a major problem in the context of Artificial Intelligence (Wahl, 2020). The ethics of data collecting, processing, and use as well as decision-making in Artificial Intelligence is particularly important in light of the principles of Maqasid Al-Shariah, which

emphasize the importance of balancing the pursuit of individual and societal well-being with the protection of human dignity, rights and freedoms (Khateeb, 2021).

In short, Maqasid Al-Shariah provides a useful framework for evaluating the relevance of Artificial Intelligence to Islamic principles. While Artificial Intelligence has the potential to bring about significant benefits, it is important to ensure that it aligns with Islamic values and does not violate human rights or dignity. By considering the objectives of Maqasid Al-Shariah, we can develop and use Artificial Intelligence in ways that promote the well-being of individuals and society as a whole.

### **The Dilemmas of Artificial Intelligence between Policies and Islamic Regulations**

Many nations have started working together with industry and business leaders to develop various rules to regulate the use of AI technology and systems due to the broad-ranging effects -both advantages and threats- of Artificial Intelligence. In order to maintain their economic competitiveness and for a more thorough form of governance, developed nations like Canada, China, Japan, the United Kingdom, the United States and the European Union have started to implement strategies to encourage the development and commercialization of Artificial Intelligence (Erdélyi & Goldsmith, 2018).

It is frequently believed that Artificial Intelligence empowers people by giving them more autonomy and control. Technology has also caused us to devalue moral principles since it raises an increasing number of ethical and moral issues that our culture is unable to resolve adequately. According to Hofmann, technology makes life more difficult by posing issues that call into question our moral and ethical principles (Hofmann, 2019). His claim is also valid against Artificial Intelligence which has created a number of moral conundrums and concerns that were not there before. This has occurred with previous technologies as well, but Artificial Intelligence has changed the nature and magnitude of these dilemmas.

For instance, AI models are utilized to find embryonic heart anomalies, allowing for early intervention that may be able to avert neonatal mortality. However, if parents choose not to use the technology and their newborn dies as a result, is it fair to say that they killed their child by not using the technology? The load of decision-making is increased by adding diagnostic aids; in this situation, there is an additional burden of determining whether to employ the assistance and subsequently whether to pursue early treatment. Due to the availability of these and other similar technology, there has been a reformulation and reinterpretation of events involving life and death (Riken, 2018).

Additionally, Valey and Beker discuss testing the AI model used in autonomous cars on real-world roads and raise the ethical question of whether it is morally appropriate to use test subjects on public roads for an autonomous car's test run (Lin et al, 2020). A similar conundrum exists in the fields of medicine and

surgery, where it is debatable whether or not a future medical robot (well-trained in controlled conditions and simulations) should be tested on actual people (Lin et al, 2020). Although there has always been controversy around the ethics of using human subjects in experiments, this situation adds a new layer of complexity because, in addition to the patient's status as a test subject, there is also controversy surrounding the robot's role as a physician.

In order to handle the impact of AI technology's rapid evolution, collaboration and interdisciplinary integration are other solutions. The many viewpoints and disciplines, especially from the Islamic perspective, should be taken into consideration by Artificial Intelligence developers and policymakers in this regard. Islamic civilization formerly contributed a priceless contribution to global civilization, as history has shown (Al-Hassani, 2017). Islam has a history of finding solutions to a wide range of issues, as evidenced by the emergence of numerous outstanding scholars in a variety of disciplines including philosophy, science, engineering, politics, literature, society, religion and medicine. Accordingly, the Renaissance in Europe, which eventually gave rise to a great civilization, was sparked off by the advancement of knowledge in the Islamic world (Rabee & Zulkifl, (2017).

The re-establishment of the partnership between scientists and Muslim experts, who have long been split into two distinct universes, is another anticipated benefit of integration. Indeed, the endeavour to uphold and protect users' rights and safety aligns intimately with the concept of preserving the five higher principles of Maqasid al-Shari'ah, namely preserving religion (*al-ddin*), life (*al-nafs*), intellect (*al-'aql*), offspring (*al-nasl*) and property (*al-mal*) (al-Shatibi, 2002). These five guiding objectives and necessities are meant to uphold and protect human rights and interests (*masalih*) (Ibrahim et al, 2018; Auda 2014).

For example, for Muslim consumers the *halal* status of a product is ensured by the use of Shari'ah-compliant indications like the halal logo. Muslim customers now have more trust in relying on products that have been endorsed by regional Islamic authorities thanks to the usage of the emblem (Yahya & Mohamad Rasit, 2019). In another instance, numerous parties internationally, including the European Union, United Nations and UNESCO, began to pay attention to the use of personal data because the use of Artificial Intelligence involves a range of data, including personal data. For instance, the General Data Protection Regulation (GDPR) is being implemented by the European Union to safeguard users' personal data (Casali & Vyas, 2021).

The value of protecting personal information is consistent with Islamic teachings. Because it is a part of the right to privacy, Islam places a high value on the protection of personal information (Hayat, 2007; Nawawi et al, 2021). Verse 12 of surah al-Hujurat and verse 27 of surah an-Nur both support this. Therefore, it is not only essential but also in line with Islamic teaching to secure all types of personal data, including structured, unstructured, geographic, time-series, event, network



and connected data (Nawi et al, 2021). Evidently, the debate over Artificial Intelligence Law should draw from a variety of Islamic texts, and it requires collective *ijtihad* (al-Qaradawi, 1985).

According to the current state of knowledge and technology, these approaches can be used to handle a variety of AI-related problems. However, before they can be applied, it is still unclear what Muslim scholars and experts think of AI technology in terms of awareness, potential, usability, diffusion, and rules for Muslim users.

### **A Maqasid-Based Approach for Artificial Intelligence Ethical Challenges**

The historical development of the *maqasid* concept should serve as an ethical compass that enables Muslim communities to live their entire existence in line with the Islamic *Shari'ah*. We can find ethical guidelines for all circumstances that people encounter by using the *maqasid*-based approach and a framework.

The study of the large corpus of literature on virtue ethics created in medieval and premodern Islamic culture is still lacking from current work on the topic (Bucar, 2018). Islamic scholars, including luminaries of the humanities like al-Ghazali, al-Shatibi and others developed a thorough thinking and deep philosophical thought mainly in the fields of human psychology, divine providence, morality, spirituality and virtue. The ethical-spiritual system inside the larger framework of Islamic *Shari'ah*, which is the manifestation of the Islamic worldview, is permeated with the Islamic concept of virtue (Bucar, 2018). In Islamic metaphysics, *maqasid*-based ethics establish that every created being has a purpose including the universe, human beings and every other creation.

Conceptualizing *maqasid*-based ethics and virtues in the Islamic tradition is intended to encompass an ethical framework that helps resolve the hierarchy of values within the societal dimension, which is then concretized by a social instrument of virtuous individuals that leads to virtuous masses and societies upholding *maqasid*-based ethics in their lives and practices. The structure of the *maqasid*-based ethics in this paper for Artificial Intelligence to seek in the societal sphere, which all specialists, policymakers, users and others should put into force through their righteous dispositions (Raquib et al., 2022). The development of ethical values would be guided by the *maqasid* framework in this case, even though it depends on experiential learning from life's opportunities and challenges. General ethical virtues, which are accepted by the major religious and secular ethical traditions, could be incorporated within the broad framework of the *Maqasid al-Shari'ah*, particularly under the religious objective of *'Imarah*, *Tazkiyah*, and *Khilafah*.

The ethics for AI technology can be appropriated from within the *maqasid* framework, so that the ethical values in the form of higher purposes contribute to creating virtuous individuals within communities. These ethical virtues would then empower them to establish *maqasid*-based ethics for AI technology in their society

as they live and integrate those ethical virtues individually and collectively. In light of Taha Abd al-Rahmane thought, the manifestation of self-absorption and narcissism of both creators and consumers of technology, apparent in social media technologies, will find further embodiment and incarnations in Artificial Intelligence uses meant for human control. (Hallaq, 2019) Contrarily, modern human beings give themselves over to techno-market forces at the height of self-love under the false pretension of sovereignty, mastery, and control. He describes the kind of subjectivity that should be developed to enable individuals to engage in better ethical and moral-practical reasoning, allowing the ethical virtues to guide their moral and ethical judgments vis-à-vis technology (Abd al-Rahmane, 2006, 62).

When assessing Artificial intelligence, it is typical to look at specific technologies separately and weigh their advantages and disadvantages. The original sources of Islamic Shari'ah, the Holy Qur'an and the Sunnah, which are the traditions of sayings, approvals and deeds ascribed to the Prophet Muhammad (SAAWS), serve as the foundation for Islamic ethics, which lay out clear guidelines for all spheres of life. All facets of social and personal life are supported by Islamic principles, and the Shari'ah guides all experiences. Despite the fact that the sources of Islamic ethics and law are not unanimous and there are some areas of non-agreement, this gives rise to a divine unity among Muslims who can always turn to the scripture to forge consensus, particularly for new occurrences or unprecedented situations (Raquib et al, 2022).

Indeed, a framework other than a technological or scientific one must be used to evaluate Artificial Intelligence. Instead, we should adopt an approach to the ethical AI challenges that represents a more thorough and all-encompassing understanding of human nature and experiences, such as the techno-moral or techno-ethical approach based on virtues and practices from Islamic lenses. The development and widespread adoption of Artificial Intelligence could exacerbate issues like the digital divide and other types of inequality, causing more harm (such as job losses) than gain (like enhanced efficiency). Thus, even though Artificial Intelligence is frequently seen as a tool without inherent values, it has the potential to be a catalyst for the growth of techno-capitalism, which would then exacerbate the disparities within capitalism and the oncoming surveillance capitalism (Gupta et al, 2021).

We must revise our conception of happiness and responsibility of being vicegerents of the Creator (Allah SWT) on this earth in light of numerous ethical viewpoints if we are to analyze Artificial intelligence in its entirety. This is unlike the approaches that assess Artificial Intelligence using the techno-social norms that currently rule Silicon Valley with its gross consumerism and surveillance capitalism (Zuboff, 2019). The Islamic paradigm with its ethics and virtue-based approach seems like a preferable alternative.

Jasser Auda in his most recent book entitled *Re-Envisioning Islamic Scholarship: Maqasid Methodology as A New Approach* explains why it is crucial for

Islamic scholarship to stay away from partialism, apologism and deconstructivism pitfalls. Being purpose-driven is crucial because it enables us to properly direct the present toward the future. Islamic Artificial Intelligence ethics based on the maqasid should be comprehensive, holistic, dynamic and future-focused. The Maqasid study is grounded on the Islamic worldview inspired by the timeless revelation (*wahy*) (Auda, 2022).

It is significant to notice that the objectives or purposes of the Shari'ah are active, multifaceted and intertwined. The maqasid must be taken into account collectively *vis-à-vis* Artificial Intelligence. The traditional maqasid approach upon which the preservation of faith, life, intellect, progeny, wealth and dignity are based, should therefore not be taken into account in isolation as if there is no interaction between them because such partialism can lead to conclusions that contradict the established Islamic universal principles (Auda, 2022).

According to J. Auda, a systems-focused holistic maqasid methodology is necessary to counteract the partiality of thinking that might appear in human intellect in general, including Islamic scholarship (Auda, 2022). The maqasid approach would make it more important to create practical ethical tools and methodologies to assess and guide Artificial Intelligence at various levels. Additionally, the maqasid methodology proposed by Sheikh Jasser Auda is set to be applied more broadly and it requires fundamental and serious efforts in the very lens through which Artificial Intelligence is imagined.

It is noteworthy that the maqasid approach has a much wider reach when dealing with ethical issues within Artificial Intelligence. The Islamic virtues and ethics seek to lessen the systems of inequity that are still present in the tech industry, in contrast to the majority of ethical discourses surrounding Artificial Intelligence that stayed focused on specific aspects of it. Purposeful philosophy places a stronger emphasis on ethics in the private lives of individuals emphasizing the reciprocal influence between individual ethical decisions and the society in which they live (Raquib et al, 2022).

Additionally, the maqasid approach alters our entire understanding of what an incentive is. We are aware that the current order of things requires that all actions, whether good for or detrimental to society, be primarily driven by economic (or material) incentives. As a result, many AI applications are created without thoroughly considering all of their potential effects. However, according to the maqasid and ethics-based approach, organizations and companies would not evaluate their laws or projects based on the economic incentives they generate, but rather according to whether they violate any of the five or six objectives that the Islamic Shari'ah has established. For instance, predictive policing which aims to protect people, would be assessed for the potential harm it can do to life (*nafs*), as well as to determine whether it is resulting in an increase in the arrest, detention, or physical harm of people of color. (Selbst, 2019). Under such a system, the entire perspective from which Artificial Intelligence is addressed would be radically

different especially within new lenses of Maqasid from a contemporary perspective that go beyond classical classifications and approaches.

## **Conclusion**

Artificial Intelligence which offers multiple advantages and potentials in a variety of sectors, has quickly emerged as a significant area of technical growth. However, as Artificial Intelligence becomes more and more deeply ingrained in society, it is essential to consider its ethical ramifications. From an Islamic standpoint, Artificial Intelligence and its users should adhere to the principles of Maqasid Al-Shari'ah and its ethics.

In this paper, we have discussed some of the numerous ethically grievous effects that contemporary Artificial Intelligence approaches have. This paper also dealt with some of the most urgent ethical challenges at the level of manipulation and privacy. Therefore, it has proposed an integrated, ethic-based approach to counter the challenges of Artificial Intelligence. This paradigm aspires to cultivate moral people and communities that can cooperate to live a teleologically purpose-driven life, where there is a shared conception of good and maslaha under the umbrella of Maqasid Al-Shariah, which offers a comprehensive structure for assuring vicegerency of human beings on earth through the protection of privacy, dignity, equitable distribution of wealth, social justice and more. Furthermore, Maqasid Al-Shariah with its ethic-based approach represents a challenge to neoliberal capitalist frameworks for analysing Artificial Intelligence, and it offers a groundwork for assuring that AI technologies do not jeopardize human rights, values and existence.

To ensure that Artificial Intelligence serves the greater welfare of humanity and is consistent with the objectives of Islam, Maqasid Al-Shariah must be incorporated into its ethics. This paper proposed that the Islamic AI ethics approach, based on Islamic values and maqasid could serve as a potential model for creating an ethical standard for the development of Artificial Intelligence that is globally incorporating, accepted, and works for the maslaha of human beings globally. Since a moral and legal ethical code is anchored in the Islamic culture and tradition, we believe that an Islamic Artificial Intelligence ethical approach is needed and requires further research attempts to consolidate its applications. Additionally, we contend that adopting concepts from and engaging with the Islamic ethic-based and maqasid-based approaches for Artificial Intelligence will enliven the global AI ethics conversation and serve as a starting point for different productive discussions.

## **Recommendations**

1. Through a variety of media venues, the public must be informed and educated on the risks and impacts of Artificial Intelligence.

2. Muslim consumers should be made aware of the advantages and disadvantages of items based on AI technology.
3. AI debates and discussions are needed to inform Muslims about Islamic rulings on AI technology and systems through the integration of Artificial Intelligence in courses and curricula.
4. The need for religious authorities to have a collective presence and discuss the impacts and risks of Artificial Intelligence, and to participate in determining its limitations and prospects.
5. Scholars should activate Maqasid al-Shari'ah approaches and guidelines in regulating the usage of Artificial Intelligence products for Muslims.
6. Muslims should consult the directive that combines Islamic principles while dealing with the many AI-related concerns in order to protect their rights and interests and maintain compliance with the Holy Qur'an and Sunnah teachings.
7. It is recommended also that a multi-disciplinary approach must be taken, incorporating the perspectives of religious scholars, social scientists, and computer experts when dealing with Artificial Intelligence issues.

## References

- Abd Aziz, A., Lokman, A. M., & Yusof, Z. M. (2011). "Information technology ethics: the conceptual model of constructs, actions and control measure". *International Journal on Computer Science and Engineering*, 3(6), 2580-2588.
- Abd al-Rahmane, T. (2006). *Al-'Amal al-Dini Wa-Tajdid al-'Aql*. 4th ed. Casablanca: al-Markaz al-Thaqafi al-'Arabi.
- Anggilia, M., Purnomo, J. H., & Hidayati, N. N. (2021). "Islamic Business Ethics: How to Apply it on Hikma Collection Group (HCG) Management at Pondok Pesantren Miftahul Hikmah Parengan Sub-District, Tuban District, East Java". *Journal of Sharia Economics*, 3(2), 137-159.
- Auda, J. (2022). *Re-envisioning Islamic scholarship: Maqasid methodology as a new approach*. Claritas Books.
- Auda, J. (2014). *Maqasid Al-Shariah: A Beginner's Guide*. International Institute of Islamic Thought (IIIT).
- Bostrom, N., & Yudkowsky, E. (2014). *The ethics of artificial intelligence*. Cambridge: Cambridge University Press.
- Bryson, J. J. (2018). "Patience is not a virtue: the design of intelligent systems and systems of ethics." *Ethics and Information Technology*, 20(1), 15-26.
- Bucar, E. M. (2018). Islamic virtue ethics. *The Oxford handbook of virtues*, 207-223.
- Chen, A. (2019). "Inmates in Finland are training AI as part of prison labor." *The Verge*, 28.
- Al-Faki, M. (2014). "Islamic Ethics of Artificial Intelligence." *Journal of Islamic Economics, Banking and Finance*, 10(1), 1-10.
- Floridi L. (2014). *The Fourth Revolution. How the Infosphere is Reshaping Human Reality*, Oxford: Oxford University Press.
- Jobin, A., Ienca, M., & Vayena, E. (2019). "The global landscape of AI ethics guidelines". *Nature Machine Intelligence*, 1 (9), 389-399.
- Hagendorff, T. (2020). "The ethics of AI ethics: An evaluation of guidelines". *Minds and Machines*, 30(1), 99-120.
- Hallaq, W. B. (2019). *Reforming Modernity: Ethics and the New Human in the Philosophy of Abdurrahman Taha*. Columbia University Press.
- Hallaq, W. B., & Mohadi, M. (2022). "Al-Maqasid wa Tahadiyyat al-Hadatha," *Journal of Contemporary Maqasid Studies*, 1(2), 105-130.
- Hamed, M., Belyamani, M., Abduljawad, H., & Al-Barzinji, Z. (2022). "Maqasid Research Methodology Challenges: A Survey Study." *Journal of Contemporary Maqasid Studies*, 1(2), 83-104.
- Haneef, SSS (2006). *Ethics and fiqh for daily life: An Islamic outline*. International Islamic University Malaysia.
- Hao, K. (2019). "China has started a grand experiment in AI education. It could reshape how the world learns." *MIT Technology Review*, 123(1). 1-9
- Hashi, A. A. (2011). "Islamic ethics: An outline of its principles and scope." *Revelation and Science*, 1 (03).

- Hofmann, B. (2013). "Ethical challenges with welfare technology: a review of the literature." *Science and engineering ethics* , 19 (2), 389-406.
- Gupta, A., Royer, A., Wright, C., Khan, F. A., Heath, V., Galinkin, E., ... & Butalid, R. (2021). "The State of AI Ethics Report" (January 2021). *arXiv preprint arXiv:2105.09059*.
- Lin, P., Abney, K., & Jenkins, R. (Eds.). (2017). *Robot ethics 2.0: From autonomous cars to artificial intelligence*. Oxford University Press.
- Mohadi, M. (2023). Interview with Jasser Auda. *Journal of Contemporary Maqasid Studies*, 2(1), 159-174.
- Mohamed, S., Png, MT, & Isaac, W. (2020). "Decolonial AI: Decolonial theory as sociotechnical foresight in artificial intelligence." *Philosophy & Technology* , 33 , 659-684.
- Müller, V. C. (2021). "Ethics of artificial intelligence". In *The Routledge social science handbook of AI* (pp. 122-137). Routledge.
- Nawi, AM, Ismail, R., Ibrahim, F., Hassan, MR, Manaf, MRA, Amit, N., ... & Shafurdin, NS (2021). Risk and protective factors of drug abuse among adolescents: a systematic review. *BMC public health* , 21 (1), 1-15.
- Noble, S. U. (2018). *Algorithms Of Oppression*. In *Algorithms of oppression*. New York University Press.
- Raquist, A., Channa, B., Zubair, T., & Qadir, J. (2022). "Islamic virtue-based ethics for artificial intelligence." *Discover Artificial Intelligence*, 2(1), 11.
- Selbst, A. D. (2017). Disparate impact in big data policing. *Ga. L. Rev.*, 52, 109.
- Singla, K., Singla, K., Poddar, M., Sharma, R., & Rathi, K. (2017). "Role of ethics in digital marketing". *Imperial Journal of Interdisciplinary Research*, 3(7), 371-375.
- Siau, K., & Wang, W. (2020). "Artificial intelligence (AI) ethics: ethics of AI and ethical AI." *Journal of Database Management (JDM)*, 31(2), 74-87.
- Al-Qurtubi A. A.(n.d). *Al-Jami" li Ahkam al-Qur'an*, Beirut: Dar al-Kutub al-Ilmiyyah.
- Tilout, J. (2022). "The Need for Awareness of the Founding Objectives (Maqasid) of Sciences." *Journal of Contemporary Maqasid Studies*, 1(2), i-xii.
- Yuan, L. (2018). "How cheap labor drives China's AI ambitions." *The New York Times* , 25 , 2018.
- Zaroug, A. H. (1999). "Ethics from an Islamic perspective: basic issues." *American Journal of Islam and Society*, 16(3), 45-63.

