DIGITAL ETHICS OF ARTIFICIAL INTELLIGENCE (AI) IN SAUDI ARABIA AND UNITED ARAB EMIRATES

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ABSTRACT

Artificial intelligence (AI) poses a serious challenge for data protection and ethics. Whereas ethics is based on the moral and religious understanding of good and evil, adherence to religious norms is vital for many nations. In Islam, privacy is a fundamental value that is deeply rooted in the principles of Shariah law and focuses on the dignity of the individual, personal boundaries and moral behaviour. Therefore, the use of AI technologies by Islamic nations raises concerns about the compatibility of these traditional privacy norms with ethical frameworks for AI. To ensure that the field of AI is not only innovative but also morally and religiously acceptable, an optimal balance between ethical governance and technological advancement must be maintained. This study examines the approaches of the Kingdom of Saudi Arabia and the United Arab Emirates in integrating Islamic ethics and privacy rules into their ethical frameworks for AI. The study utilised qualitative methods, including descriptive and content analyses, combined with a comparative approach from data collected through documentary method. The transition from Islamic ethics to digital Islamic ethics experienced the significant influence of Islamic business ethics, which places a strong emphasis on justice, accountability and human dignity. Future studies on digital Islamic ethics need to follow the pace of technological advancement and identify the future ethical risks and gaps. The Islamic concept of privacy is unique. It differs from the Western legal approach in that it emphasises the importance of adherence to Shariah teachings and provides a strict and clear explanation for desirable behaviour in doubtful and ambiguous cases. The digital age requires the evolution of the Islamic concept of privacy to address the ethical and legal challenges posed by technological advances. The ethical frameworks for AI adopted by the Kingdom of Saudi Arabia and the United Arab Emirates illustrate the integration of cultural and ethical values with technological innovation. The governments attach great importance to harmonising security and privacy with Islamic principles. Both countries demonstrate how universal ethical rules for AI can be adapted to national circumstances. A customised ethical framework will therefore not only promote innovation and technological progress, but also ensure that these are in line with national ethical standards, cultural and religious values and societal needs.

Introduction

Artificial intelligence (hereafter AI) is becoming an essential part of our lives and is slowly but surely penetrating many aspects of human existence. Therefore, technological progress must be reconciled with religious and moral rules that are vital for many people today (Eisen & Laderman, 2007; Koos, S., 2018; Healey & Woods, 2020). The ethical aspects of justice, autonomy and privacy are becoming increasingly complicated and require special consideration, especially in the application of AI.

As privacy is a fundamental human right related to the individual's perception of the environment and society, it is logical to assume that its understanding has particular characteristics depending on the characteristics of the individual: Sex, gender, ethnic and national origin and especially religious beliefs. As a specific cultural phenomenon, religion is a powerful factor in society that determines the norms of behaviour and coexistence. The history of human civilisation confirms the importance of respecting religious beliefs. According to researchers, religion is at the centre of one in ten conflicts (Axelrod & Phillips, 2004; Svensson & Nilsson, 2018). It is therefore particularly important to strike a balance between technological advancement and a broad range of moral and ethical principles (Moosa, 2015). As modern technologies become more widespread, it is crucial that these systems are harmonised with cultural and religious norms and values.

Data protection should be aligned with international data protection standards (Shahul Ikram, 2024). However, global data protection standards are predominantly rooted in Western legal doctrine and shaped by the European legal system, which is of Christian origin. Instruments such as the European Union's General Data Protection Regulation and the European Union Artificial Intelligence Act serve as models for many non-Western countries: Brazil, Japan, South Korea and others. However, each country is unique and is influenced by a combination of historical, cultural, political, economic and social factors; therefore, different countries have different approaches to data protection. Despite the dominance of global privacy standards, different cultural and religious nuances will persist and affect national ethical and legal frameworks for cutting-edge technologies. And these non-Western and non-Christian nations will shape their frameworks according to their unique yet significant views of privacy and ethics. Islam, in particular, offers its own viewpoint on the moral concerns surrounding the application of modern technologies such as AI due to its inherent strong moral principles and explicit teachings regarding the advancement of technology and the importance of privacy (Kamali, 2017).

When AI technologies are developed and deployed with the social, cultural and religious norms inherent in society in mind, justice and respect are ensured and marginalisation is prevented (Cath, 2018). In addition, misunderstandings and conflicts that can arise when using new technologies are avoided (Coeckelbergh, 2020; Floridi, 2014). It is crucial to take into account the diversity of cultures and religions in an increasingly globalised and digitalised world. This approach benefits the creation of a just and peaceful society where everyone is safe and feels valued (Ess, 2006).

In our research we are focused on two leading Islamic nations: the Kingdom of Saudi Arabia (hereafter KSA) and the United Arab Emirates (hereafter UAE). Our choice is explained by their approach to the economic model: the reduction of oil dependence and the intensifying investments in cutting-edge industries such as bio- and high technologies (Mishrif & Al Balushi, 2018). Such an investment climate supported by the flexible regulations and incentives guarantees their global competitiveness in attracting foreign investments (Gazali et al., 2020). Finally, for the last couple of years, they became the regional hubs for technology and innovations, establishing the specialised zones, such as free zones and innovation clusters (Reisinezhad & Bushehri, 2024), for international partners that invest in research and development. In the meantime, KSA and the UAE are pioneers in AI deployment within economic and social systems, demonstrating their readiness to realise technological advancements (Chandran et al., 2023). At the same time, such a rocketing AI integration poses a question of whether such cutting-edge technologies are in compliance with Islamic ethical principles, particularly in such a sensitive domain as privacy. Islam considers privacy as a religious right guaranteed by Sharia law, which affects the legal systems and ethical standards in KSA and the UAE (Al-Kandari & Dashti, 2022; Merhej, 2021).

The aim of the study is to identify and compare the approaches of KSA and the UAE in integrating Islamic ethics and privacy rules into their ethical frameworks for AI. This was achieved by rigorously realising the research objectives: 1) to examine the transition from traditional Islamic ethics to business ethics and finally to Islamic digital ethics; 2) to review the Islamic concept of privacy and justify its importance in the digital age; 3) to assess the alignment of privacy and AI ethics policies and regulations in KSA and the UAE with Islamic ethical principles; 4) to compare the approaches of KSA and the UAE towards AI ethics and privacy regulations.

Literature Review

Despite the notable efforts of KSA and the UAE to incorporate ethical principles into their AI policies and strategies, there is little systematic research in academia on how these initiatives align with Islamic concepts of privacy and ethics.

With regard to the ethical challenges in the field of information technology, Abdallah (2010) provided a detailed analysis of Islamic ethics, emphasising the importance of moral norms from Islamic teachings for technological regulation of technology use. At the same time, Masum et al., (2011) provided a framework for moral behaviour in the digital sphere and discussed ethics in accordance with Islam. Hosseini et al. (2014) examined the impact of information technology on Islamic behaviour and pointed out its both positive and negative influence on Islamic traditions. Lubis and Kartiwi (2013), discussing privacy and trust from an Islamic perspective, emphasise the importance of culturally sensitive approaches to data security.

Islam views privacy as a critical value and this topic has attracted considerable scholarly interest. Abu-Gazzeh (1995) examined privacy as a basis for Islamic architecture and emphasised the importance of seclusion in daily life. The development of private domestic space in early Sunni Islamic thought was examined by Alshech (2004, 2007), who presented the historical and theological context of privacy. Hayat (2007) and Almebrad (2018) discussed the challenges of data protection and assessed the level of protection for privacy of information in KSA and Pakistan respectively. According to their findings, while conventional Islamic principles provide a solid foundation, new legal frameworks are required to address today's privacy issues.

Some authors have analysed the ethical issues of AI in an Islamic context. Alkhiri (2022) focused on the ethical foundations of AI from an Islamic perspective and showed how ethical AI activities can be reconciled with Islamic beliefs.

Cath (2018) and Coeckelbergh (2020) ulitilsed a broader approach, including governance, moral potential and difficulties in the development and deployment of AI technologies. Focusing on AI ethics, Elmahjub (2023) proposed a pluralistic ethical strategy that combines Islamic ethics with international norms and principles. His scholarship offered the insights how religious standards might enrich the international framework for AI governance.

Another important area of the study is Islamic business ethics. Mohammed (2013a; 2013b) provided a conceptual framework for business ethics in Islam, while Agustian et al., (2023) presented a comparative analysis of ethical and legal concepts in Islamic corporate governance. The impact of social media on moral behaviour and privacy was examined by Belk and Sobh (2013) and Abokhodair and Vieweg (2016). They explored the dynamics of gender and privacy in the Arab Gulf states highlighting the complicated relationship between digital activities and cultural norms. Sitiris and Busari's study deserves special mention in terms of the interdisciplinary approach to AI regulation: In their study, they combined Islamic theory on legal personality with the latest technological development and emphasised the importance of developing "comprehensive and religiously sensitive regulatory frameworks" (Sitiris & Busari, 2024).

Methodology

A combination of methods was used to obtain valid and reliable results. The qualitative methods of description and content analysis were applied to both primary sources (the Qur'an) and secondary sources (research papers). These methods supported the achievement of two research objectives: to explore the transition from traditional Islamic ethics to business ethics and eventually to digital Islamic ethics; and to review the Islamic concept of privacy to justify its relevance in the digital age. A content analysis of the

main policies and regulations on AI in KSA and the UAE, followed by a comparative analysis of the ethical rules for AI and the Islamic concepts, facilitated the assessment of their consistency. The comparative approach was instrumental in identifying similarities and differences between the national approaches to AI ethics and privacy regulation.

Findings and Discussion

Transitioning from Islamic Ethics to Business and Digital Ethics in Islam

The first scholar to formally discover Islamic ethics as a unique and distinct field of study was Abdul Haq Ansari in 1989; in his outstanding work he presented the central concepts and challenges (Ansari, 1989). Before Ansari, discussions on Islamic ethics were spread across different fields. Philosophers, theologians and other scholars discussed certain ethical issues, but they lacked a unified approach (George, 1985). Early philosophers integrated some Islamic perspectives into Greek ethics, but did not fully align their work with Islamic ethical principles. Theological contributions, while important, were often seen as part of theology rather than as ethical discussions in their own right, which emphasises the multifaceted nature of Islamic ethics (Fakhry, 1970; Watt, 1985).

The ethical framework of Islam comprises four key axioms — unity, balance, free will and responsibility — each rooted in the teachings of the Qur'an and Hadith, which provide a foundation for Islamic business ethics (Mohammed, 2013a). The holistic approach is intrinsic to Islamic ethics. It emphasises the connection between God, the individual, society and the universe in general. This framework advocates purposeful living, discretion and balance, and aims to free individuals from guilt and foster a sense of belonging and purpose. Islam guides engagement and social improvement and encourages a forward-looking perspective underpinned by core ethical values and principles outlined in the Qur'an and Hadith. This ethical system is specific to Islam; it emphasises responsibility and awareness in business and societal contexts (Aravik et al., 2023).

The ethical rules in Islam are derived from the right to honour and reputation, so the connection and interdependence of human rights and ethics is unquestionable. Islam emphasises that the dignity of the individual is inviolable, and this provision is enforced through the prohibition of defamation and invasion of privacy. The Qur'an and Islamic teachings provide the basics for such a protection. It advocates a society built on respect, transparency and mutual trust, free from unfounded suspicion and negative judgement:

> Translation: And do not spy or backbite each other.

> (Surah Al-Hujurat, 49:12)

The Islamic concept of privacy stands for the inviolability of life, dignity, and property, emphasising that government, along with the society (ummah), is responsible for the enforcement of protection of these values. This means that defamation, unauthorised surveillance, and other actions that might affect the individual's reputation are strictly prohibited. At the same time, Islam offers active defence instruments that assist in protecting not only an individual's but also their close ones dignity (especially females). On the contrary to the Western defamation laws, Islam places the burden of proof for reputational damage on the victim (Tahir & Mahmood, 2015). This principle emphasises the universal respect and protection of human dignity in Islamic jurisprudence and distinguishes it from other legal systems.

There is broad agreement on the main ethical principles across different cultures. However, the Islamic ethical framework is unique due to the integration of divine guidance and natural wisdom. Islam emphasises active engagement with life's challenges and advocates a balance between worship and daily behaviour. This sets Islam apart from other religions that promote withdrawal from the materialistic world in favour of spiritual contemplation. Muslims are not only encouraged to adhere to the Five Pillars of Islam — but also to embody Islamic ethical standards in every aspect of life, always emphasising the importance of social responsibility and justice (Rahman & Ali, 2023). Business operations are not exempt from this. The ethical guidelines of Islam are not merely situational, but are based on timeless and universal standards. The ethical behaviour prescribed for Muslims in business reflects a commitment to fairness, social responsibility and Shariah compliance: the pursuit of profit should also benefit the wider community. This ethical stance underpins all commercial activities and requires strict adherence to the

concepts of halal (lawful and permitted) and haram (unlawful or forbidden) to ensure that business not only strives for financial gain but also makes a positive contribution to society (Mohammed, 2013b).

Islamic religious teachings provide the basic rules (both ethical and legal) for doing business: moral excellence (*taqwā*), good deeds (*ṣāliḥāt* or *a'māl ṣāliḥa*), justice ('*adl*), perfection or excellence (*ihsan*), together with legal doctrines such as Islamic law (*shariah*), contracts (*uqud*), charity (zakat), endowment (*waqf*), and the concepts of forbidden (*haram*) and permissible (*halal*) (Kamali, 2023; Alias et al., 2024). Together, they form a comprehensive Islamic business model: integrity and social responsibility are derived from ethical principles, while the conformity of Islamic values with business practises is ensured by legal regulations.

A closer look at the liaison between these ethical and legal aspects reveals a complementary relationship. Ethics provide a moral guideline for business conduct, while legal principles set the operational boundaries. This dual approach promotes a corporate culture characterised by justice, transparency and sustainability (Agustian et al., 2023). Importantly, Islamic ethical principles cover a wider range of considerations and sometimes go beyond the legal requirements. For example, certain actions that are legally permissible may be ethically unacceptable if they are considered harmful to society. This ethical leeway allows Islamic businesses to prioritise social welfare and moral responsibility over strict legalism (Aravik et al., 2023).

Islamic business ethics is based on a number of fundamental principles: Actions depend on moral intentions, faith and ethical behaviour are inextricably linked, and business decisions always have far-reaching societal implications. Such a holistic approach to Islamic business ethics ensures that spirituality and moral obligations guide business activities. In his work, Beegum has identified and analysed the system of such principles (Beegum, 2004). The first principle stands for actions and decisions in business life that are considered ethical because of the intention of the individual. It emphasises the importance of sincerity and intention in determining the moral value of business activities. The second principle emphasises that good actions are a form of worship. According to Islam, good intentions followed by righteous actions are considered acts of worship. This principle emphasises that rightful intentions cannot legitimise wrongful acts: Lawful and moral actions are important. The third principle ensures that personal freedoms are enjoyed with a sense of responsibility and fairness: While Islam promotes individual freedom of belief and action, it limits this freedom within a framework of responsibility and justice.

The next principle proclaims the ultimate freedom in faith. This spiritual freedom influences ethical decision-making and encourages actions that are consistent with the divine will and faith in Allah; it provides the individual with ultimate freedom and frees him or her from submission to anything or anyone but Allah. The fifth principle puts quality above quantity: no matter if the majority or a minority stands for the rule to make it automatically ethical – such rule should be rooted in moral values and divine guidance. The following principle suggests the open and inclusive approach excluding the narrow and egocentric influence. This openness encourages the consideration of different points of view and the benefit that ethical discussions have for the whole community.

Finally, the last two principles relate to the shared interpretation of divine and natural laws and active participation in life in order to grow spiritually. Ethical decisions should be derived from collective insights into the Qur'an and the natural world, indicating a harmony between the divine commandments and the laws of the universe as a guide for ethical practises. Islam encourages personal growth and social contribution through personal development and spiritual growth (*tazkiyyah*). This concept argues in favour of active engagement in life's endeavours as a means of ethical and spiritual development. Taken together, these arguments provide a comprehensive basis for an Islamic business ethic that advocates practises that are not only economically sound, but also morally upright and socially beneficial. This approach integrates faith with business behaviour and promotes balanced and ethical engagement in the world (Beegum, 2004; Hafez, 2002).

Such principles as the prohibition of interest and business transparency make Islamic law significantly influential on ethical decision-making. This ethical consciousness, rooted in religious beliefs, fosters a sense of responsibility towards the community and faith, maintaining the solid interconnection between cultural norms, religious principles, and business behaviour (Sarib et al., 2023; Sholikhin & Amijaya, 2019).

Islamic business ethics is a solid framework that can be utilised in the digital age because it values justice, accountability, and human dignity. Some scholars highlight (Saputra et al., 2022) that digital ethics refers to the moral standards that regulate online behaviour with a focus on conscientiousness, accountability, and morality, improving in this way the quality of human life. Online behaviour is shaped by moral guidelines based on values and beliefs (Chaudhary, 2020).

Islamic business ethics provides a model for moral conduct in digital environments because of its focus on monotheism, justice and balance, freedom and free will, charity, and responsibility. These guidelines encourage all participants to think of their activity as an outward manifestation of their faith and to be aware of the potential consequences of their choices, both good and bad. Thus, the preservation of online privacy and the right to free speech are presented as moral requirements as well as individual preferences (Al-Alfi, 2018).

In a digital environment, the implementation of Islamic principles creates a respectful and responsible culture. It helps everyone maintain high moral standards, from cybersecurity providers to end users, and therefore the balanced allocation of power among cyberspace players is achieved (Saputra et al., 2022). The benefits of incorporating Islamic beliefs into digital ethics enhance the cybersecurity infrastructure and improve the internet users' behaviour (Noviarita et al., 2024). This makes the internet a safer and more friendly place for everyone.

Islamic ethical precepts provide a solid foundation for navigating digital environments, especially when it comes to influencing customer behaviour in online marketplaces. This strategy values data privacy and safety (Atiya et al., 2024; Floridi, 2014). This fundamental idea, which lies at the heart of data security, gives people the powers to manage their personal data and to take informed decisions about it. Users play a crucial role in the enhancement of the general cybersecurity framework if they secure their privacy. This attention to details demonstrates the value of privacy in Islamic culture, where a person's right to privacy and dignity are intricately connected. Consent is intimately related to privacy in Islam, emphasising the inherent worth of the right to privacy and the people's mutual duties to safeguard it. As a result, implementation of Islamic principles to digital activities encourages moral behaviour, protects individual privacy, and creates a more secure and polite online community for everyone (Abdallah, 2010; Huda et al., 2024).

In 2011, scholars started elaboration of Islamic ethics for the information technologies (hereafter IT) sector (Masum et al., 2011). The ethical guidelines are of two categories: professional principles for IT ethics, which are an improved IEEE/ACM ethics specifically designed for IT professionals, and Islamic principles for IT ethics, which serve as guidelines for everyone in both professional and personal conduct. This framework combined professional standards with Islamic principles to direct moral behaviour and decision-making in the IT industry (Kiliç & Türkan, 2023). The set of Islamic IT ethical principles can serve as a blueprint for further elaboration of digital Islamic ethics since the information technologies constitute the core matrix for the digital environment. They maintain the infrastructure, security, and data handling capabilities used by digital applications. The future studies on digital Islamic ethics should follow the pace of technological progress to facilitate future ethical risks and gaps.

The Islamic Concept of Privacy

The right to privacy is protected by the provisions on dignity and responsibility when Islamic norms are applied to digital interactions (Saputra et al., 2022; Al-Hawary & Al-Smeran, 2017). According to Shariah law, the right to privacy is recognised as a basic right. This is because the Qur'an specifically distinguishes fundamental rights from other categories of rights. The rights that are specifically mentioned in the Qur'an are regarded as essential legal rights. These include the rights to life, property, privacy, freedom of movement, justice, human dignity, honour, and equal treatment under the law. Islamic legal philosophy places these rights in the centre of discussions, supporting the arguments with the Qur'anic teachings (Kamali, 1993).

Human rights are considered gifts from God in Islam, unchangeable by any entity or government. The right to life, personal safety, dignity, decent living standards, freedom, justice, equality, and the option to participate in or refrain from certain activities are among the fundamental human rights as defined by Islamic teachings (Mawdudi, 1995; Kamali, 2014). Within the Islamic paradigm, these rights are essential

to upholding justice, equity, and individual wellbeing (Hosseini et al., 2014; Abokhodair & Vieweg, 2016).

The Cairo Declaration on Human Rights in Islam proclaims the right to privacy. Although privacy may not be specifically mentioned in the constitutions of many Islamic states, privacy is nonetheless regarded as a fundamental right under their legal systems, which are based on ideas pertaining to the rights to life, property, and personal freedom. Texts from the Holy Qur'an mentioning the value of privacy and the protection of individual dignity support this legal position (Ahmad, 2009; Islam and Jahan, 2015).

There are certain similarities between early Islamic thoughts on privacy and contemporary Western perspectives. Scholars from both Islam and the West acknowledge that an individual's private space extends outside their house (Caruana and Cannataci, 2007). These experts advocate for legislation protecting individual privacy, even when it comes to spaces close to one's home. Both groups also stress the importance of the house in maintaining harmony and protecting both personal belongings and tangible objects (Abu-Gazzeh, 1995; Alshech, 2004). These common opinions underlines the importance of privacy everywhere and the need to safeguard it in a variety of legal and cultural contexts (Abu-Gazzeh, 1995; Alshech, 2007).

Western conceptions of privacy frequently refer to the right to privacy and the expectation of privacy. It is worth noting, nevertheless, that neither the Qur'an nor the Prophet Muhammad's Hadiths specifically mention the terms "private" or "public". Furthermore, according to Belk and Sobh (Belk & Sobh, 2013), there is no exact word for "privacy" in Arabic.

Islam considers privacy to be an essential and absolute right that is vastly discussed in the Qur'an and the Sunnah (Tahir, 2012). Believers have a religious duty to respect others' privacy to build an open, trustworthy community based on the presumption of innocence. Supporting that presumption, Islamic teachings strongly prohibit any governmental invasion of private places, even for the reason of national security or mere suspicion. The government has a duty to safeguard people's privacy, honour, and reputation. It is absolutely forbidden to invade someone else's personal space. Islamic law views invasions of privacy as evil and unlawful (Islam, 2024; Islam and Karim, 2019; Mohseni & Miremad, 2019). Muslim academics have continuously objected to the government's right to interfere in citizens' personal matters (Oh, 2007; Ahmad, 2009).

Islam's perspective on privacy encompasses many distinct aspects (Islam et al., 2021). For example, people have a right to their own personal space at home, which requires permission to enter; it is illegal to enter someone else's property without permission; family members' privacy must be respected; people have a right to personal privacy within their own homes, which discourages others from prying into personal matters; visitors are expected to arrive at scheduled times and leave on time:

> Translation: Do not enter any houses except your own homes unless you are sure of their occupants' consent.

> (Surah Al-Nur, 24: 27)

People are responsible for maintaining their own privacy; state and governmental respect for privacy is essential, with no room for unwarranted intrusions; personal matters are shielded against unauthorized examination and disclosure. It is prohibited to spy on someone or disseminate rumours or slander since these activities violate people's privacy and dignity (Islam et al., 2021).

These guidelines highlight the value of privacy and respecting personal space in accordance with Islamic teachings, and they apply to both Muslims and non-Muslims (Hayat, 2007; Berween, 2002; Piri, 2012; Saleh, 1998). Islamic law respects both the rule of law and the right to privacy. Early Muslim leaders demonstrated this regard for privacy by their deeds and interpretations of the law. Islamic legal precedents underline the value of individual liberty and dignity by protecting privacy through specific methods, including evidentiary standards (Kadivar, 2003; Lobo & Elauf-Calderwood, 2012). Islamic law puts a great emphasis on information protection, viewing it as a right that could be subject to legal consequences if violated. In Islam, privacy is characterised by borders, ownership, and moral principles (Alshech, 2004) that guarantee individuals's right to utilise their belongings or information without hindrance. This includes provisions requiring confidentiality in contracts and prohibiting eavesdropping, although rights

may be modified for a noble cause shown by interested parties (Lubis & Kartiwi, 2013). It is necessary for Muslims to use ethical frameworks to guide their technological engagement as they traverse the digital age. Adjusting to the digital era does not mean abandoning the foundational texts or creating brand-new policies. Instead, it is about adhering to the Islamic teachings that are consistent with these ideas, making sure they remain relevant without undermining Islamic values (Lubis & Kartiwi, 2013; Islam & Shuford, 2024).

Policies and Regulation Governing Privacy and Artificial Intelligence Ethics in Kingdom Saudi Arabia

In 2020, KSA set an ambitious goal to become a world leader in AI by 2030 (Saudi Data & AI Authority, 2020). In the National Strategy for Data and AI 2020, the policymakers focused on the moral use of AI, the development of adaptable, the dynamics of AI, and the data protection standards (Saudi Data & AI Authority, 2020). The purpose of the document was to create a rigid basis for ethical development for the utilisation of AI. Considering Islamic religious values, which uphold respect for morality and individual rights, these initiatives are especially crucial. The document puts the ethical application of AI technology in the centre and requires the development of adaptable and dynamic AI and data protection standards. The strategy was amended in 2023, and now it represents the complex of seven fundamental principles, which are intended to cement the moral grounds for AI design and deployment: fairness, privacy and security, humanity, social and environmental benefits, reliability and safety, transparency and explainability, accountability, and responsibility (Saudi Data & AI Authority, 2023).

The principle of privacy and security is the core one, which is perceived as a fundamental value. AI systems must be designed and utilised with the highest level of privacy and data protection during their entire life cycle. This provision is important for the reason of reducing the chances of causing any professional, financial, or psychological harm and damages to the reputation of an individual or entity. Therefore, it is essential to stop unauthorised access and to prevent any breaches (Saudi Data & AI Authority, 2023). Privacy and security should be the first considerations during the design and development process of AI systems. According to the concept of privacy, personal information must only be used when necessary, and any analysis of such data must adhere to ethical rules or the official authorisation granted by the authorities. The defence against cyberattacks is a crucial component to incorporate into the system's security architecture. This protection must align with certain regulatory requirements as well as industry best practices (Saudi Data & AI Authority, 2023).

Table 1. Alignment of KSA AI ethical principles with Islamic ethical teachings (compiled by authors)

AI ethical principle	Islamic ethical principle	Qur'anic reference
Fairness	Justice (al-ʿadālah)	"O you who have believed, be persistently standing firm in justice..." (Surah An-Nisa' 4: 135)
Privacy and security	Respect for privacy (iḥtirām al-khuṣūṣiyyah)	"And do not spy or backbite each other..." (Surah Al-Hujurat, 49: 12)
Humanity	Compassion and mercy (al-raḥmah)	"And We have not sent you, (O Muhammad), except as a mercy to the worlds." (Surah Al-Anbiya' 21: 107)
Social and environmental benefits	Stewardship of the Earth (khilāfat al-arḍ)	"It is He who has made you successors upon the earth..." (Surah Fatir, 35: 39)
Reliability and safety	Trustworthiness (al-amānah)	"Indeed, Allah commands you to render trusts to whom they are due..." (Surah An-Nisa', 4: 58)
Transparency and explainability	Honesty and clarity (al-ṣidq wa al-wuḍūḥ)	"And do not mix the truth with falsehood or conceal the truth while you know (it)." (Surah Al-Baqarah, 2: 42)
Accountability and responsibility	Responsibility (al-mas'ūliyyah)	"Every soul will be (held) in pledge for what it has earned." (Surah Al-Muddathir, 74: 38)

As seen in Table 1, the utilisation of AI and related technologies in KSA complies with Islamic ethical principles. Therefore, the ai ethical rules stand for strict adherence to justice (*al-'adālah*), respect for privacy (*iḥtirām al-khuṣūṣiyyah*), compassion and mercy (*ar-raḥmah*), stewardship of the earth (*khilāfah al-arḍ*), trustworthiness (*al-amānah*), honesty and clarity (*aṣ-ṣidq wal-wuḍūḥ*), and responsibility (*al-mas'ūliyyah*).

To adhere to the principle of fairness, AI systems must be deployed that way, so their performance is free from prejudice and unfairness (Alkhiri, 2022). This aligns with the Islamic concept of *al-adalah*, which stands for fairness and impartiality. AI should be utilised in a way that respects the rights and freedoms of all social groups, irrespective of their racial, religious, or cultural background.

Data management is essential to maintain privacy and security (Almebrad, 2018). Personal data classification and protection strategies, like access restrictions and authentication methods, should be included in data management policies. Data backup and archiving also should be performed on a regular basis, which will result in reducing the incidents of privacy breaches and guaranteeing the operability of AI systems. Priority should be given to the implementation of privacy and security measures into AI system testing and design. All components of the AI model should be protected from outside unauthorised modifications and cyberattacks. The threat of anonymity or personal information leakages must be reduced by data classification addressing its sensitivity level and the expertise of risk owners (Elmahjub, 2023).

Islamic ethics maintains privacy rules and defends individual rights. Information security and data privacy are regarded as crucial elements of personal protection. The principle of the protection of humanity (*ḥifẓ al-anām*) in Islam symbolises ensuring the welfare and protection of all people in the context of digital technologies; it is reflected as protection of human rights and dignity. This necessitates the use of all technologies, including AI, in a way that respects privacy and human rights. Accountability and responsibility maintain the next important Islamic principle of ethics. According to the accountability principle, both users and developers of AI systems must take responsibility for their actions and consequences. This complies with the Islamic idea of responsibility (*al-mas'uliyyah*), which holds that everyone is accountable for their deeds in the eyes of God and society (Elmahjub, 2023).

Policies and Regulation Governing Privacy and Artificial Intelligence Ethics in the United Arab Emirates

The release of AI ethics principles and guidelines in the UAE took place in 2022 by the Minister of State for Artificial Intelligence Office (United Arab Emirate's Ministry of State for Artificial Intelligence Office, 2022). This document became the logical continuation of the national AI strategy (United Arab Emirate's Ministry of State for Artificial Intelligence Office, 2021). As KSA, the UAE estimated a year of 2030 as the milestone for the drawing results of their efforts in becoming a global leader in technologies and sustainable development (Khansaheb, 2024). This commitment underlines AI's ethical values, especially those that address justice, inclusivity, equality, and people's rights and general well-being. Safeguarding data privacy in AI systems is a fundamental component of these principles (Sam Jose, 2023).

The principle of privacy is one of the eight ethical principles that regulate AI systems. The other principles include (1) fairness, (2) accountability, (3) transparency, (4) explainability, (5) robustness, safety, and security, (6) a human-centred approach, and (7) sustainability and environmental preservation. These guidelines seek to develop a safe, responsible utilisation of AI that considers its ethical and technical dimensions. The privacy principle makes a strong emphasis on protecting personal data and promotes the adoption of the least invasive methodology (United Arab Emirate's Ministry of State for Artificial Intelligence Office, 2022).

As shown in Table 2, the utilisation of AI and related technologies in the UAE complies with Islamic ethical principles. Ethical behaviour, justice and the protection of individual rights are the core Islamic values. Therefore, the ethical rules of AI stand for strict adherence to justice (*al-adalah*), responsibility (*al-masuliyyah*), honesty and clarity (*al-sidqu wa al-wuduh*), clear communication (*al-tawasul al-wadih*), trustworthiness (*al-amanah*), compassion and mercy (*al-rahmah*), stewardship of the earth (*khilafat al-ard*) and respect for privacy (*ihtiram al-khususiyyah*).

Table 2. Alignment of UAE AI ethical principles with Islamic ethical teachings (compiled by authors)

AI ethical principle	Islamic ethical principle	Qur'anic reference
Fairness	Justice (*al-ʿAdālah*)	"O you who have believed, be persistently standing firm in justice..." (Surah An-Nisa' 4:135)
Accountability	Responsibility (*al-mas'ūliyyah*)	"Every soul will be (held) in pledge for what it has earned." (Surah Al-Muddathir, 74:38)
Transparency	Honesty and clarity (*al-ṣidq wa al-wuḍūḥ*)	"And do not mix the truth with falsehood or conceal the truth while you know (it)." (Surah Al-Baqarah, 2:42)
Explainability	Clear communication (*al-tawāṣul al-wāḍiḥ*)	"And We did not send any messenger except speaking in the language of his people..." (Surah Ibrahim 14:4)
Robustness, safety, and security	Trustworthiness (*al-amānah*)	"Indeed, Allah commands you to render trusts to whom they are due..." (Surah An-Nisa' 4:58)
Humanity	Compassion and mercy (*al-raḥmah*)	"And We have not sent you, (O Muhammad), except as a mercy to the worlds." (Surah Al-Anbiya' 21:107)
Sustainability and environmental friendliness	Stewardship of the Earth (*khilāfat al-arḍ*)	"It is He who has made you successors upon the earth..." (Surah Fatir, 35:39)
Privacy	Respect for privacy (*iḥtirām al-khuṣūṣiyyah*)	"And do not spy or backbite each other..." (Surah Al-Hujurat 49:12)

As mentioned above, Islamic principles respect privacy, which leads to the protection of personal data. One of the central ideas of Islam is dignity (or sanctity — *al-hurmat*), which embodies the importance of protecting and respecting what is considered sacred or inviolable. This concept is used in relation to objects, places, morals, dignity and physical integrity. In this way, it fully supports the principles of privacy and data protection in AI ethics. In addition, data processing must be honest (*al-sidq*) and fair (*al-'adl*) according to Islamic values. Fairness and transparency are considered the fundamental ethical principles of AI that prevent bias and discrimination that guarantees the processing of data fairly and equally by all users (Ghandour & Woodford, 2019).

Moreover, Islam mentions accountability (*mas'uliyyah*) for individual' actions, and the principles of accountability and transparency of AI systems implement this provision. Accordingly, these principles require that AI developers and users should be responsible for the security and privacy of data (Ghandour & Woodford, 2019).

To ensure data privacy during the lifecycle of the AI system, developers and users should implement robust data management frameworks and security protocols. The "privacy by design" methodology helps to carefully analyse the privacy implications of AI. AI developers and operators should take measures to protect privacy, such as data encryption and anonymisation, to reduce the use of sensitive data. A robust data management framework includes the assignment of responsibilities for data protection oversight, procedures for data access and internal control systems for processing. This guarantees data privacy, relevance and quality control throughout the lifecycle of the AI system (UAE Ministry of State Office for Artificial Intelligence).

The successful implementation of the AI data privacy concept requires the development and use of feedback channels for users and a data monitoring system. Users should be able to report data protection issues and privacy violations. The AI system should manage user consent appropriately and allow consent to be withdrawn. When developing AI models, the use of trustworthy and high-quality data sets should be prioritised, while the use of sensitive data should be minimised (United Arab Emirates's Ministry of State for Artificial Intelligence Office, 2022). This helps to avoid discriminatory effects and protect data from unauthorised use. Any process must ensure data security and comply with data privacy laws.

Comparison of Kingdom of Saudi Arabia and United Arab Emirates approaches to AI ethics and privacy regulation

Islamic ethical norms focussed on privacy serve as the foundation for the current ethical standards for AI in KSA and the UAE. Islamic teachings on privacy and data protection are aligned with the fundamental respect for human autonomy and dignity. Both countries emphasise that the development and use of AI is highly dependent on privacy as an ethical consideration. However, in the broader context of AI ethics, each nation's privacy policies embody their own distinctive goals and themes.

The UAE's ethical requirements provide for the inclusion of the principle of privacy in the development of AI. To this end, minimising the intrusion of personal data, trustworthy data management and measures to protect personal information are required. Security techniques include encryption, anonymisation and data aggregation. The UAE framework also emphasises the importance of data protection impact assessments and the creation of multi-stakeholder governance systems that ensure data protection during the design, development and use of AI systems. Finally, the developers and users of AI are obliged to maintain a balance between data protection and innovation as well as social benefits.

Data protection and security are also considered fundamental ethical principles of AI in KSA. The National Strategy for Data & AI 2020 contains provisions that emphasise the importance of data privacy and security for the developers and users of AI systems. Islamic principles, which prioritise respect for human dignity and the autonomy of the individual, serve as the basis for KSA's approach to data protection.

As a result, KSA and the UAE have distinct priorities and approaches to implementation of privacy principles in their ethical frameworks for AI, although both states share common Islamic ethical concepts. While KSA focuses on general data security and privacy while upholding Islamic values, the UAE emphasises the integration of the principle of "privacy by design" and engagement in international governance. According to the framework, AI systems must be developed and used with people's privacy in mind. They must protect sensitive information from unwanted access and adhere to strict data security guidelines to avoid security breaches. It emphasises the importance of building processes and controls into the development of AI systems so that they can be continuously monitored and controlled and compliance with privacy and security standards is ensured.

Both frameworks recognise the importance of privacy in AI ethics, but the UAE statement goes into more detail on how privacy should be built into AI systems from start to finish and highlights the need for a proactive and all-encompassing privacy strategy. The focus on multi-stakeholder governance and privacy assessments points to a comprehensive, inclusive approach to privacy that involves a range of stakeholders to ensure that AI systems meet stringent requirements.

Whilst the purpose of the KSA principles is similar, data protection is placed within a wider framework of ethical criteria. This recognises the need to integrate privacy in an ethical way into the development and application of AI without creating a comprehensive procedural framework.

Essentially, the UAE guidelines outline procedures and governance models for integrating privacy into AI systems and reflect an operational approach. The KSA framework, on the other hand, requires AI systems to ensure privacy and data security at every stage of their lifecycle and identifies privacy as a core ethical ideal. Both strategies add insightful viewpoints to the international conversation on AI ethics, particularly with regard to the important issue of data privacy.

Conclusion

The transition from Islamic ethics to digital Islamic ethics was significantly influenced by Islamic business ethics. It places a strong emphasis on justice, accountability, and human dignity. The ethical principles of Islamic information technology can serve as a blueprint for the further elaboration of digital Islamic ethics; therefore, information technologies form the central matrix for the digital environment. These technologies provide the infrastructure, security and handling of data used by digital applications. Future studies on digital Islamic ethics must follow the pace of development of high technology (such as AI) to recognise the future ethical risks and gaps.

The Islamic concept of privacy is unique. It differs from the Western legal approach in that it emphasises the importance of adherence to Shariah teachings and provides a strict and clear explanation of desirable behaviour in doubtful and ambiguous cases. The digital age requires the evolution of the Islamic concept of privacy to resolve the ethical and legal challenges posed by rapid technological advancements.

The ethical frameworks for AI developed in KSA and the UAE demonstrate the importance of linking cultural and ethical values with technological innovation. Both countries prioritise security and privacy, reflecting Islamic principles. While both the UAE and KSA focus their ethical standards for AI on the Islamic principles that value privacy, the UAE takes a more detailed, operational approach that integrates privacy into every aspect of the design and management of AI systems. In contrast, KSA emphasises the fundamental ethical importance of privacy within a broader ethical framework, without specifying detailed implementation strategies.

The approaches of KSA and the UAE show how national contexts can modify universal ethical AI rules. As a result, a customised ethical framework for AI will not only promote innovation and technological progress, but also ensure that these developments are in line with national ethical standards, cultural and religious values and societal needs.

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