ETHICS IN THE DIGITAL AGE: EXPLORING THE ETHICAL CHALLENGES OF TECHNOLOGY

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ABSTRACT: This research paper delves into the ethical challenges arising from rapid technological advancements in the digital age, focusing on Islamic perspectives. It seeks to establish a comprehensive framework based on Islamic principles from the Qur'an, Hadith, and scholarly interpretations to guide human behaviour amidst these changes. While innovations like artificial intelligence, social media, and data analytics offer substantial benefits, they also present ethical dilemmas requiring careful consideration. The study examines challenges in areas such as privacy and surveillance, social media conduct, artificial intelligence, automation, and data security, exploring how Islamic ethics can guide individuals and communities in navigating these issues. Utilizing qualitative research methods, the study collects data from libraries, online sources, and researchers' experiences, which are then analysed to extract meaningful insights. By referencing relevant Qur'anic verses and authentic Hadiths, the study demonstrates the application of Islamic ethics to technological challenges. It explores various Islamic ethical frameworks, including *maqasid al-shari'ah* (objectives of Islamic law), *fiqh al-mu'amalat* (Islamic jurisprudence of transactions), and ijtihad (independent legal reasoning), to address these challenges. The paper recommends integrating Islamic ethical principles into educational curricula, professional codes of conduct, and technology-related policy frameworks. This integration is crucial for fostering ethical practices and decision-making, ensuring that technological advancements align with Islamic values and ethical standards. The study concludes that incorporating Islamic ethics into technology discussions enables individuals and societies to effectively navigate the digital age's challenges while upholding values that promote justice, truthfulness, and responsible conduct. It emphasizes the importance of understanding Islamic ethics in the context of the digital age to address contemporary ethical dilemmas and ensure that technological progress aligns with Islamic values.

KEY WORDS: Islamic Ethics, Digital Age, Technology, Ethical Challenges, Qur'an, Hadith

1. INTRODUCTION

The advent of the digital era has brought about significant changes in human interaction, communication, and daily life. Technological advancements have revolutionised our surroundings, providing unprecedented convenience, interconnectedness, and information accessibility (Brookings Institution, 2022). Nevertheless, these developments have also given rise to numerous ethical concerns that warrant thorough scrutiny, particularly from an Islamic ethical perspective. As Muslims navigate technology's influence on their lives, it is imperative to investigate the moral implications and potential conflicts emerging in this rapidly evolving landscape. Islamic ethics, grounded in Qur'anic teachings, Hadith (the Prophet Muhammad's sayings and actions), and scholarly interpretations, offer a comprehensive framework for guiding human conduct and addressing moral challenges. With its emphasis on justice, compassion, responsibility, and accountability, Islamic ethics provides valuable insights into navigating the ethical challenges presented by technology in the digital age (Maydan, 2021).

Through the adoption of Islamic ethical principles, Muslims can critically evaluate the impact of technology on individual and societal well-being, endeavouring to align their actions with religious tenets. This study aims to investigate the ethical concerns that arise in the digital age from an Islamic perspective, elucidating key issues and proposing ethical frameworks to address them. Through this discourse, we seek to enhance our understanding of how Islamic ethics can inform the ethical and judicious use of technology. To establish the context for this discussion, we first delineate the significance of Islamic ethics in guiding human behaviour across all domains of life. This foundation will facilitate the elucidation of how Islamic principles can be applied to technological challenges in the digital era. We will subsequently examine the impact of technological advancements that have permeated various facets of our lives, from artificial intelligence and social media to data analytics and automation (Harvard Business Review, 2021). While these innovations offer numerous benefits, they also present ethical challenges that must be addressed through an Islamic ethical lens.

Subsequently, this study explores specific ethical concerns arising in the digital age by drawing on Islamic teachings. Issues such as privacy and surveillance, social media conduct, artificial intelligence, and data privacy and security are examined. Through analysing these challenges, the aim is to highlight the complex nature of ethical dilemmas and the necessity for thoughtful deliberation within the Islamic context. Furthermore, this research proposes Islamic ethical frameworks to assist individuals, policymakers, and society in navigating ethical issues brought about by technology. Consequently, concepts such as *maqasid al-shari'ah* (objectives of Islamic law), *fiqh al-mu'amalat* (Islamic jurisprudence of transactions), and the principle of ijtihad (independent reasoning) have been explored to provide practical guidance and adaptation to the evolving technological landscape.

To demonstrate the applicability of Islamic ethics to digital age challenges, this study investigated case studies that assess the ethical implications of social media usage, the balance between security and privacy, and the ethical dimensions of artificial intelligence and automation. These case studies underscore the importance of applying Islamic ethics in real-life scenarios, emphasising the

relevance of Islamic principles in guiding responsible and ethical decision making. This research contributes to the ongoing discourse on Islamic ethics in the digital era by offering a comprehensive examination of the ethical issues posed by technology. By integrating Islamic ideas and frameworks, the aim is to provide guidance to individuals, policymakers, and society in navigating these challenges responsibly and ethically. Through this exploration, the study aspires to foster a deeper understanding of the intersection between Islamic ethics and technology, ultimately promoting virtuous and ethical engagement through digital innovation.

2. AN OVERVIEW OF ISLAMIC ETHICS

By definition, ethics in Islam (known as "*akhlaq*" or "*adab*") refers to a set of values, principles, and guidelines that Muslims are expected to uphold in their behaviour and decision-making differentiating what is right and what is wrong (Udin et al., 2018). In the Cambridge online dictionary (2022), ethics is defined as "a system of accepted beliefs that control behaviour, especially such a system based on morals" while moral is defined as "behaving in ways considered by most people to be correct and honest". These ethics are deeply rooted in the teachings of the Qur'an and the Sunnah, and they aim to promote virtuous character, social responsibility, and spiritual development among believers. They serve as a comprehensive moral compass guiding human actions and inactions. Central to Islamic ethics is the concept of tauhid, or the oneness of God, which emphasizes that all actions and decisions must align with the will of Allah (Fadl, 2017). This belief in God's absolute sovereignty underscores the importance of moral accountability, with each individual responsible for their actions and their consequences before the divine.

Also, at the heart of Islamic ethics is the pursuit of justice, compassion, and the well-being of both individuals and society (Albar & Chamsi-Pasha, 2015). The Qur'an highlights the significance of virtuous character traits, such as honesty, integrity, and kindness, while obligating Muslims to avoid harmful and unethical practices. The concept of *maqasid al-shari'ah,* or the higher objectives of Islamic law, further illustrates the holistic nature of Islamic ethics, aiming to preserve and protect five essential elements of human well-being: religion, life, intellect, lineage, and wealth. Islamic scholars have developed a rich tradition of ethical reasoning and jurisprudence, known as *fiqh al-mu'amalat,* which addresses the totality of ethical dimensions of human interactions, transactions, and societal relations. This body of knowledge provides guidance on a wide range of issues, from financial and economic practices to social and interpersonal relationships, emphasizing the balance between individual and collective interests, as well as the need for adaptability and contextual analysis in deriving ethical judgments.

3. KEY PRINCIPLES OF ISLAMIC ETHICS

Islamic ethics comprise a collection of values and principles that Muslims endeavour to adhere to in their conduct and relationships (Siddiqui, 1997). At its core, Islamic ethics aim to promote virtuous behaviour, honesty, social responsibility, and spiritual development. By providing a moral compass, Islamic ethics foster harmony and justice in society, guiding individuals in making ethical decisions. The key principles of Islamic ethics include:

i. ***Tauhid* (Monotheism):** This principle emphasizes the unity and oneness of Allah (God), forming the foundation of Islamic ethics. It underscores the ultimate accountability to a single divine authority, guiding Muslims in their ethical conduct (McKechnie et al., 2007). The Qur'an states, "Say, 'Obey Allah and obey the Messenger. But if you turn away, then he is only responsible for his duty and you are responsible for yours.'" (Qur'an 24:54).

ii. ***Adl* (Justice):** Justice is a central tenet of Islamic ethics (Mirakhor & Askari, 2019). Muslims are called to uphold justice in all aspects of life, ensuring fair and equitable treatment of others and promoting social harmony. The Qur'an commands, *"Indeed, Allah commands justice, grace, as well as courtesy to close relatives. He forbids indecency, wickedness, and aggression"* (Qur'an 16:90).

iii. ***Ihsan* (Excellence):** The principle of *ihsan* encourages Muslims to strive for excellence in all endeavours, demonstrating sincerity and excellence in their actions and interactions. A Hadith narrated by 'Umar (RA) describes ihsan as "*to worship Allah as if you see Him, for even though you do not see Him, He sees you.*" (Ibn Majah, Hadith 63).

iv. ***Amanah* (Trust) and Responsibility in Islam:**The concept of *amanah* underscores the importance of trustworthiness and responsibility that Muslims are expected to uphold in their roles and duties. The Qur'an emphasizes this by stating, "Indeed, Allah commands you to render trusts to whom they are due and when you judge between people to judge with justice" (Qur'an 4:58). This highlights the ethical obligation to fulfil trusts and act justly in all matters.

   In addition to trust, Islamic ethics place a strong emphasis on personal responsibility and accountability before Allah (SWT). As Siddiqui (1997) notes, Muslims are encouraged to be conscious of their actions and the consequences they carry, both in this life and the hereafter. The Qur'an further reinforces this by reminding believers, "Be mindful of the Day when you will ˹all˺ be returned to Allah, then every soul will be paid in full for what it has done, and none will be wronged" (Qur'an 2:281). This serves as a powerful reminder of the ultimate accountability each individual faces.

v. ***Itqan* (Perfection and Precision):** The principle of *itqan* emphasizes the importance of performing tasks with precision, thoroughness, and excellence. Itqan encourages Muslims to approach their duties and responsibilities with dedication and care, ensuring that their work reflects the highest standards of quality (Harahap et al., 2024). This principle is rooted in the belief that all actions should be carried out with sincerity and a commitment to excellence, as a reflection of one's faith and devotion to Allah (SWT). The Qur'an highlights this concept by stating, "*And do good; indeed, Allah loves the doers of good*" (Qur'an 2:195). Additionally, the Prophet Muhammad (ﷺ) said, "Allah loves that when anyone of you does a job, he should perfect it" (Al-Bayhaqi, Shu'ab al-Iman). By incorporating itqan into their daily lives, Muslims are encouraged to strive for excellence in all their endeavours, whether in personal, professional, or spiritual pursuits. This commitment to quality and precision not only enhances individual performance but also contributes to the betterment of society as a whole.

By adhering to these principles, whether in physical or virtual life, Islamic ethics provide a robust framework for individuals to navigate moral challenges and contribute positively to society.

2.1. Sources of Islamic Ethics

The Qur'ān, Hadith, and scholarly interpretations are the basic sources of Islamic ethics. These texts establish the fundamental ideas and provide advice for ethical behaviour within the Islamic context.

i. **The Qur'ān:** The Qur'an is the revealed speech of Allah that was conveyed to the last Prophet Muhammad through the Angel Gabriel. It was transmitted to us by numerous individuals (*tawatur*), both orally and in written form, in its exact meaning and precise wording (von Denffer, 1994). It is the major source of guidance, delivering ethical lessons and moral principles for the whole of humanity. The Qur'ān covers a variety of ethical issues, with a focus on justice, compassion, honesty, and integrity etc. (Halstead, 2007) (Liu, 2011) (Rizk, 2008).

ii. **Hadith:** The Hadith are the recorded sayings, actions, and approvals of Prophet Muhammad, the last Messenger of Allah (Azami 1978). The Hadith offer further clarification and expansion on the ethical tenets outlined in the Qur'an. Collections of Hadith, curated by subject matter experts, provide supplementary guidance and examples of ethical conduct. Alternatively, they provide practical insights on how the Prophet Muhammad (SAW) practiced Islamic ideals in his daily life, serving as a role model for Muslims.

iii. **Scholarly Interpretations:** In the context of Islamic law, scholarly interpretations refer to the secondary sources of Shariah, such as ijma' (consensus), qiyas (analogical reasoning), and *istihsan* (juridical preference). Islamic scholars, often known as jurists or theologians, play a crucial role in interpreting and applying Islamic ethics to specific situations and circumstances (Albar & Chamsi-Pasha, 2015). Their scholarly contributions, collectively known as *fiqh* (jurisprudence), provide comprehensive explanations, analyses, and practical applications of ethical principles across diverse contexts. These interpretations are instrumental in guiding Muslims as they navigate ethical challenges in various aspects of life, ensuring that their actions align with Islamic values and teachings.

4. THE DIGITAL AGE: TECHNOLOGICAL ADVANCEMENTS AND THEIR IMPACTS

The digital age has been marked by rapid technological breakthroughs that have fundamentally transformed how people communicate, access information, and interact with the world. This section provides an overview of some of the major technological developments that have shaped the digital age:

i. **Artificial Intelligence (AI):** AI involves the development of computer systems capable of performing tasks that typically require human intelligence, such as speech recognition, decision-making, and problem-solving. Technologies like machine learning and robotics have seen significant advancements, impacting a wide range of industries including healthcare, finance, transportation, and customer service (Furman &

Seamans, 2018). A notable example of AI is generative AI tools like OpenAI's ChatGPT, Google's Gemini, Islamic AI chatbot, 'Ansari', Microsoft's Copilot etc. which can generate human-like text and assist in tasks ranging from customer support to content creation. Other AI tools include image recognition software, autonomous vehicles, and virtual assistants like Siri and Alexa, which enhance user interaction and automate routine tasks.

ii. **Social Media:** Social media platforms have become powerful tools for communication, connecting individuals across geographical boundaries. Platforms such as Facebook, Twitter, Instagram, and LinkedIn have revolutionized the way people interact, share information, and engage in social and political discussions (Boulianne et al., 2024). These platforms have facilitated global connectivity, allowing for real-time information exchange and the mobilization of social movements, while also raising concerns about privacy, misinformation, and the impact on mental health.

iii. **Data Analytics:** In the digital age, data analytics plays a crucial role in extracting valuable insights from the vast amounts of data generated daily. Organizations leverage advanced analytics technologies and algorithms to analyse data, enabling them to make informed decisions, improve efficiency, and personalize user experiences (Alonge et al., 2024). Data analytics is used in various sectors, from optimizing supply chains and enhancing marketing strategies to predicting consumer behaviour and improving public services.

iv. **Internet of Things (IoT):** The Internet of Things (IoT) represents a significant technological advancement, connecting everyday devices to the internet, allowing them to collect and exchange data. This interconnected network includes everything from smart home devices like thermostats and refrigerators to industrial sensors and wearable health monitors. IoT technology enhances efficiency and convenience by enabling real-time monitoring and control of devices, improving energy management, and facilitating predictive maintenance in industries (Gubbi et al., 2013). However, the widespread adoption of IoT also raises concerns about data privacy, security vulnerabilities, and the potential for increased surveillance, necessitating robust ethical and regulatory frameworks to protect users' rights and data integrity.

These technological advancements have brought about significant benefits, enhancing convenience, efficiency, and connectivity. However, they also pose ethical challenges and require careful consideration to ensure that their impact aligns with societal values and ethical standards.

4.1. Positive Aspects and Benefits of Technology in Various Domains

Technological advancements in the digital age have brought numerous positive impacts and benefits across various domains of life. Some notable advantages include:

i. **Communication and Connectivity:** Technology has revolutionized communication, making it faster, easier, and more accessible (Mohamed , 2022). Individuals can connect with others around the globe, fostering cross-cultural understanding, collaboration, and knowledge sharing. Video

conferencing tools, instant messaging apps, and social media platforms have bridged geographical distances, enabling real-time interaction and collaboration.

ii. **Information Access:** The digital age has democratized access to information. The internet serves as a vast repository of knowledge, empowering individuals to seek information, conduct research, and engage in lifelong learning (Laufer et al., 2021). This advancement has enabled the provision of online courses, digital libraries, and other educational platforms, thereby offering opportunities for personal and professional development, and enhancing the inclusivity and accessibility of education.

iii. **Efficiency and Productivity:** Technology has streamlined processes and improved efficiency in various sectors. Automation, digital tools, and software applications enhance productivity, enabling organizations to accomplish tasks more effectively (Tisdell, 2017). In industries such as manufacturing, logistics, and finance, technology has optimized operations, reduced costs, and increased output.

iv. **Healthcare Advances:** Technological innovations have also led to significant advancements in healthcare. In this guise, telemedicine, electronic health records, wearable devices, and AI-powered diagnostics have the potential to improve healthcare access, diagnosis, and treatment outcomes (Senbekov et al., 2020). These technologies facilitate remote consultations, continuous health monitoring, and personalized treatment plans, enhancing patient care and reducing healthcare disparities.

v. **Environmental Monitoring and Sustainability:** Technology plays a crucial role in environmental monitoring and promoting sustainability (Bublitz et al., 2019). Advanced sensors, data analytics, and satellite imagery are used to track environmental changes, manage natural resources, and develop sustainable practices. Renewable energy technologies, such as solar and wind power, contribute to reducing carbon emissions and combating climate change (Gomes et al., 2024).

vi. **Education:** Technological advancements have equally reshaped the educational domain, rendering learning more interactive, captivating, and widely available. Digital tools and platforms enable personalized learning experiences, catering to diverse learning styles and needs. Virtual classrooms, online courses, and educational apps provide students with flexible learning opportunities, breaking down geographical and financial barriers to education. Additionally, technology facilitates collaboration among educators and students worldwide, fostering a global learning community (Ahmad et al., 2023).

These positive aspects of technology demonstrate how digital advancements can enhance quality of life, promoting innovation, and addressing global challenges. However, it is essential to balance these benefits with ethical considerations to ensure that technological advancements contribute to the well-being of society as a whole.

5. ISLAMIC ETHICS IN ADDRESSING ETHICAL CHALLENGES OF TECHNOLOGY IN THE DIGITAL AGE

The rapid advancement of technology in the digital age has introduced a multitude of ethical challenges that require careful examination through the lens of Islamic ethics. As technology increasingly permeates various aspects of our lives, from social interactions and communication to data management and decision-making, the need to align these technological developments with Islamic ethical principles becomes ever more pressing. Therefore, Islamic ethics offer profound insights and principles that can effectively guide individuals and societies in tackling the ethical challenges brought forth by technology in the digital age. By applying Islamic ethical frameworks, Muslims can navigate these challenges in a manner that harmonizes with their religious beliefs and encourages a responsible and conscientious use of technology. While technological advancements bring forth numerous benefits, they also give rise to ethical challenges that warrant careful consideration. Among the key ethical challenges in the digital age that necessitate thorough examination within the Islamic ethical framework are privacy and surveillance, social media and online behaviour, artificial intelligence and automation, digital divide and access, intellectual property and copyright, and data privacy and security.

5.1. Privacy and Surveillance

Islamic ethics place great emphasis on the significance of privacy and the protection of personal information. The concept of "*satar*" (concealment) encourages individuals to safeguard their privacy and respect the privacy of others. Islamic ethics advocate for informed consent and prohibit unauthorized intrusion into personal affairs. Muslims can draw upon these principles to advocate for robust privacy protections and promote responsible data collection and usage. The increasing collection, storage, and analysis of personal data raise concerns about privacy and surveillance through CCTV camera and its modern variant chipsets. Issues such as data breaches, unauthorized access, and the commodification and commercialization of personal information pose ethical dilemmas regarding individual autonomy, consent, and the protection of personal privacy. Hence, privacy and surveillance has become critical ethical challenges in the digital age.

In both principle and practice, Islamic ethics underline the preservation of privacy rights and the sanctity of personal information. The Qur'an and Hadith provide guidance on respecting individual privacy and maintaining confidentiality. For instance, the Qur'an states in Surah Al-Hujurat (49:12): "*O you who believe! Avoid much suspicions, indeed some suspicions are sins. And spy not, neither backbite one another. Would one of you like to eat the flesh of his dead brother? You would hate it (so hate backbiting). And fear Allâh. Verily, Allâh is the One Who accepts repentance, Most Merciful.*" As such, Muslims can leverage this verse to advocate for responsible use of technology, promoting transparency, informed consent, and safeguarding individuals' privacy rights. Islamic ethics encourage individuals to strike a balance between the benefits of technological convenience and the preservation of privacy, ensuring that the collection and use of personal data adhere strictly to ethical principles.

5.2. Social Media and Online Behaviour

Undoubtedly, social media platforms have become a prominent lifewire of our lives, raising ethical concerns related to privacy, cyberbullying, and the spread of misinformation. As a safety net, Islamic ethics provide valuable guidance in navigating these challenges and promoting ethical online behaviour while safeguarding digital footprints. Islamic ethics emphasize virtuous conduct and place significant emphasis on values such as kindness, respect, and integrity in interpersonal relationships (Al-A'ali, 2008). Thus, Muslims can employ these ethical teachings to foster a positive and ethical online environment. They are encouraged to responsibly use social media platforms, refraining from engaging in cyberbullying, spreading misinformation, or participating in hate speech. Sterling Islamic teachings on constructive communication, truthful speech *(sidq al-qawl)* and excellent manners (*husn al-khulq*) can guide individuals in promoting ethical and respectful online behaviour. The ubiquity of social media platforms has raised a multitude of ethical concerns pertaining to digital behaviour and online conduct. Issues such as cyberbullying, harassment, misinformation, and the dissemination of hate speech challenge societal norms, values, and the psychological well-being of individuals (Swenson-Lepper & Kerby, 2019). This trend gives rise to numerous ethical questions concerning individuals' digital footprints, which often diverge significantly from their real-world actions and behaviours.

Observably, the pervasive use of social media platforms has consequently resulted in ethical challenges associated with people's online behaviour. In the Qur'ān , Allah (SWT) highlights the importance of truthful speech and discourages spreading false information. He says in Surah Al-Hujurat (49:6), "*O you who have believed, if there comes to you a disobedient one with information, investigate, lest you harm a people out of ignorance and become, over what you have done, regretful*." This verse reminds Muslims of the ethical responsibility to verify information before sharing it and to refrain from engaging in spreading false rumours or misleading content. As trivial as some social media posts might look, they have caused serious tensions among various religious communities in Nigeria. Moreover, the Prophet Muhammad (peace be upon him) stressed the importance of good character and gentle speech (الكلمة اللطيفة). It is narrated that he (SAW) said: "*Whoever believes in Allah and the Last Day should speak good or keep silent*" (Sahih al-Bukhari). This Hadith encourages Muslims to practice restraint in their online interactions, promoting respectful and ethical dialogue while refraining from engaging in cyberbullying, hate speech, or character assassination. By reflecting on these teachings, Muslims can apply ethical guidelines to their social media usage, emphasizing honesty, integrity, and responsible behaviour. They can foster a positive online environment by promoting kindness, respect, and thoughtful engagement, thereby upholding Islamic ethics in the digital realm.

5.3. Artificial Intelligence and Automation

Islamic ethics advocate for justice, fairness, and accountability in decision-making processes. In the context of artificial intelligence and automation, Muslims can scrutinize the ethical implications of algorithms and ensure their alignment with Islamic values. The concept of "*istihsan*" (equity) could be invoked to guide efforts to mitigate biases and ensure that the use of AI technologies does not lead to biases, discrimination or unjust outcomes. Muslims can also advocate for

transparency, human oversight, and ethical frameworks in the development and deployment of AI systems. The deployment of AI and automation raises ethical questions concerning job displacement, socioeconomic inequalities, and the potential biases embedded in algorithms (Hagerty & Rubinov, 2019). The ethical implications of AI decision-making, accountability, and the preservation of human agency require careful consideration. Concerns regarding the potential replacement of human workers by AI-powered tools have gained prominence. At this point, it is crucial to reiterate that individuals who fail to embrace and ethically leverage AI tools are at risk of being supplanted by those who do.

Therefore, from an Islamic perspective, artificial intelligence (AI) and automation raise ethical concerns. Islamic ethics underscore justice, fairness, and accountability in decision-making processes. Muslims should diligently reflect upon the Qur'anic verse in Surah Al-Ma'idah (5:8), which states: *"O you who believe! Stand out firmly for Allâh and be just witnesses and let not the enmity and hatred of others make you avoid justice. Be just: that is nearer to piety, and fear Allâh. Verily, Allâh is Well-Acquainted with what you do."* Also, in Surah Al-Hadid (57:25), Allah says: "*Certainly, We sent Our messengers with clear proofs and sent down with them the Scripture and the balance that the people may maintain [their affairs] in justice*." By applying this principle, Muslims can advocate for and uphold ethical considerations in the deployment of AI and automation technologies. Therefore, they are motivated to call for measures that ensure job security, address socioeconomic inequalities resulting from technological advancements, and embed ethical principles within AI systems to avoid biases and encourage moral agency and accountability.

Likewise, when considering the impact of AI and automation on employment, Muslims can refer to Islamic principles of economic justice. The Prophet Muhammad (peace be upon him) said: "*Give the worker his wages before his sweat dries*" (*Sunan Ibn Majah* (Vol. 3, Book: 16, Hadith 2443). This Hadith emphasizes the importance of fair compensation and timely payment for labour, ensuring that workers' rights are protected in an era of increasing automation. As such instant remuneration or swift pay on delivery should be the norm. Additionally, Islamic ethics require decision-making processes to be transparent, accountable, and free from bias. In the event of cyber disputes, alternative dispute or conflict resolution technique is offered to Muslims in the Qur'ān, where Allah says in Surah Al-Hujurat (49:9): "*And if two factions among the believers should fight, then make settlement between the two. But if one of them oppresses the other, then fight against the one that oppresses until it returns to the ordinance of Allah*." This verse highlights the importance of resolving disputes and ensuring just decision-making that adheres to the ordinance of Allah (SWT).

5.4. Digital Divide and Access

Islamic ethics indorse the principles of social justice and equity. On this note, Governments, MDAs (Ministries, Departments and Agencies) in charge of technology and awareness together with other stakeholders from NGOs and civil society groups are encouraged to address the digital divide and strive to ensure equitable access to technology and digital resources. Initiatives such as providing affordable internet access, implementing digital literacy programs, and offering technology education in underserved communities can align with Islamic ethics,

promoting inclusivity and bridging socioeconomic disparities. In retrospect, the digital age has exacerbated inequalities in access to technology and digital resources. As such, bridging the digital divide and ensuring equitable access to technology, especially in marginalized communities, is an ethical imperative.

5.5. Intellectual Property and Copyright

Islamic ethics recognize the significance of safeguarding intellectual property rights and honouring the entitlements of content creators in the face of the double-edged implications of digitalization and open access resources. The concept of "*haq al-mal*" (right to property) is applicable to digital content and creative works. In this guise, Muslims should promote ethical practices by adhering to copyright laws, attributing, and acknowledging sources properly, and supporting fair compensation for creative endeavours (Abdillah et al., 2022). The ease of digital reproduction and distribution of creative works raises ethical issues related to intellectual property rights and copyright infringement (Asari et al., 2022). On the basis of fair play, balancing the interests of creators, users, and the public domain becomes a crucial consideration.

5.6. Data Privacy and Security

Data privacy and security present pivotal ethical concerns in the digital age. Islamic ethics emphasize the protection of personal information and prohibit unauthorized intrusion into individuals' affairs. Instrumental in this regard, is the Qur'anic verse where Allah (SWT) says in Surah Al-Hujurat (49:11): *"O you who believe! Let not a group scoff at another group, it may be that the latter are better than the former; nor let (some) women scoff at other women, it may be that the latter are better than the former, nor defame one another, nor insult one another by nicknames. How bad is it, to insult one's brother after having Faith [i.e. to call your Muslim brother (a faithful believer) as: "O sinner", or "O wicked", etc.]. And whosoever does not repent, then such are indeed Zâlimûn (wrong-doers, etc.)."*

By reflecting on this verse, Muslims are obliged to advocate for ethical data practices, including informed consent, transparency in data collection and usage, and the implementation of robust security measures. Islamic ethics guide individuals to handle personal data with integrity and respect, safeguarding the dignity and privacy of individuals. Similarly, it is imperative for relevant government agencies to implement robust cybersecurity measures to effectively combat the rising tide of cyber robbery and address the prevalent issue of digital financial insecurities.

Taking into cognizance the ethical challenges of technology in the digital age through the lens of Islamic ethics, Muslims can navigate these challenges while upholding their religious values. Islamic ethical principles, such as justice, responsibility, accountability, and compassion, provide a solid foundation for addressing the ethical implications of technological advancements (Astra et al., 2024). Furthermore, scholars and religious leaders should continue to play a vital role in providing guidance and engaging in ethical discourse surrounding technology, ensuring that the Muslim community remains ethically grounded in an ever-evolving digital terrain. To explore the ethical challenges arising from technological developments in the digital age, it is essential to critically analyse the implications, consequences, and potential solutions within the framework of Islamic ethics. By examining these challenges through an Islamic ethical lens, we can

evaluate the compatibility of technology with Islamic values and principles and develop guidelines for responsible and ethical engagement with technology in the digital age. Consequently, this move allows for a holistic approach that ensures the ethical use of technology while fostering personal and societal well-being.

The proliferation of surveillance technology raises ethical questions regarding the balance between security measures and the preservation of privacy rights. Therefore, the urgent imperative to examine cybersecurity measures in order to tackle issues of banditry, kidnapping, and insurgency in Nigeria becomes evident (Onuche & Martins, 2024). Similarly, it is a significant moral obligation to refrain from surreptitiously recording telephone conversations between individuals without their explicit consent. Likewise, leveraging spyware to monitor individuals' phone data without a valid justification is unethical and should be avoided. To this effect, the Qur'ān emphasizes the sanctity of privacy and warns against spying on others. In Surah Al-Hujurat (49:12), Allah (SWT) says: "And do not spy or backbite each other. Would one of you like to eat the flesh of his brother when dead? You would detest it. And fear Allah; indeed, Allah is accepting of repentance and Merciful." This verse emphasizes the prohibition of unauthorized surveillance and encourages Muslims to respect the privacy of others.

Furthermore, the Prophet Muhammad (peace be upon him) highlighted the importance of preserving the dignity and honour of individuals. He said, "… Allah has made your blood, your properties, and your honour sacred to one another (i.e., Muslims) like the sanctity of this day of yours in this month of yours, in this town of yours" (Sahih al-Bukhari, Hadith 69, Book 8). This Hadith underscores the importance of safeguarding individuals' privacy and protecting their personal information from unwarranted intrusion. In addressing the ethical challenges of surveillance technology, this paper advocates for a balance between security measures and the protection of privacy rights. Also, calls for responsible and transparent use of surveillance technology, ensuring that its deployment aligns with Islamic ethics, safeguards individual privacy, and avoids unnecessary invasion of personal space.

6. ISLAMIC ETHICAL FRAMEWORKS FOR NAVIGATING TECHNOLOGICAL CHALLENGES

In the era of digitalization, the ethical predicaments brought forth by technology have grown increasingly intricate and multifaceted. Amidst these challenges, Islamic ethical frameworks present invaluable insights and principles that can serve as a compass for individuals and societies in traversing the ethical implications of technological advancements. With a profound heritage rooted in moral values and teachings, Islam provides a comprehensive ethical framework that can aid Muslims in addressing the ethical dilemmas and responsibilities arising in the realm of technology. By scrutinizing the fundamental principles of Islamic ethics and their application to contemporary technological predicaments, we can acquire a deeper comprehension of how Islamic ethics can inform and shape ethical decision-making within an ever-evolving digital domain.

6.1. The Principle of Maqasid al-Shariah and its Application to Technological Advancements

Maqasid al-Shari'ah, the objectives of Islamic law, provide a comprehensive framework for addressing ethical challenges across various fields, including technology and artificial intelligence (AI). These objectives emphasize the preservation of five essential elements: religion, life, intellect, progeny, and wealth (Da'wah Institute, 2015). By applying these principles, Muslims can effectively navigate the ethical dilemmas posed by technological advancements. Ibn Qayyim eloquently stated: "*Al-Shari'ah* fundamentals are built on keeping the interests (*masalih*) of the people during this life and hereafter. These objectives are built on justice, mercy, wisdom and interest of the creatures. Therefore, any situation which perverts from justice to injustice, from mercy to cruelty, from wisdom and utility to chaos and futility is outside the scope of *Shari'ah*" (Albar & Chamsi-Pasha, 2015). In the realm of technology, the principles of *Maqasid al-Shari'ah* can guide ethical decision-making by ensuring that technological solutions and applications uphold the preservation of these five essential elements. This section highlights the application of the five *Maqasid al-Shari'ah* principles in the context of technological ethics:

i.   **Preservation of Religion (*Hifz al-Din*)**: Technology should be harnessed to enhance religious practices and accessibility, such as through digital platforms for learning and worship. These tools can facilitate greater engagement with religious teachings and community activities. However, it is crucial to ensure that technology does not lead to distractions or misuse that could compromise religious values. The balance between embracing technological benefits and maintaining spiritual focus is essential.

ii. **Preservation of Life (*Hifz al-Nafs*)**: The principle of preserving life guides the ethical development and deployment of medical technologies, ensuring they prioritize human well-being and do not cause undue harm. In healthcare, AI can be leveraged to improve diagnostics and treatment, thereby enhancing the quality of life and saving lives. User-friendly mobile apps can facilitate patient-doctor communication, improve healthcare outcomes, streamline appointment scheduling, and enable seamless data sharing for better-informed treatment decisions. These apps can also support remote patient monitoring and serve as educational platforms, providing patients with accessible health information and resources. It is crucial to ensure that such technologies are used ethically and do not harm individuals.

iii. **Preservation of Intellect (*Hifz al-'Aql*)**: AI and technology should promote education and intellectual growth, providing tools for learning and innovation. At the same time, it is important to safeguard against misinformation and the erosion of critical thinking skills. The principle of preserving intellect can shape ethical guidelines for the use of AI and algorithms, safeguarding human agency and autonomy. This ensures that technology enhances, rather than diminishes, intellectual capacities.

iv. **Preservation of Progeny (*Hifz al-Nasl*)**: Technologies related to genetics and reproduction must be evaluated to ensure they align with ethical standards that protect family structures and future generations. This involves careful consideration of the implications of genetic engineering, reproductive technologies, and their impact on societal norms and values.

v. **Preservation of Wealth (*Hifz al-Mal*)**: Technology can enhance economic opportunities and efficiency. However, it is essential to ensure equitable access and prevent exploitation or harm to individuals' financial well-being. This includes addressing issues such as digital divide, data privacy, and the ethical use of financial technologies.

By integrating the principles of *Maqasid al-Shari'ah*, Muslims can embrace technological advancements that align with Islamic values, promoting ethical development and cautioning against potential harms. This approach ensures that technology serves humanity's best interests while adhering to the higher purposes of Islamic law, aligning technological progress with the overarching goals of justice, mercy, and wisdom as outlined in Islamic teachings.

6.2. Fiqh al-Mu'amalat and its Relevance to Contemporary Ethical Dilemmas

Fiqh al-Mu'amalat, the Islamic jurisprudential principle governing transactions and interpersonal relationships, provides a comprehensive legal and ethical framework for guiding interactions in various aspects of life, including contracts, commerce, and finance (Firdaus et al., 2023). In today's digital age, its principles are particularly pertinent in addressing ethical dilemmas arising from technological advancements. One of the key principles of *Fiqh al-Mu'amalat* is the prohibition of *riba* (interest or usury), which is considered a grave sin in Islam. This prohibition extends beyond the conventional understanding of interest; it encompasses any form of unjust enrichment or exploitation in financial transactions (Farooq, 2012). In the context of emerging financial technologies (fintech), this principle can guide the development and application of Islamic fintech (i-fintech) solutions that align with the Shari'ah objectives of promoting fairness, equity, and the equitable distribution of wealth.

Another foundational principle of *Fiqh al-Mu'amalat* is the emphasis on transparency, disclosure, and the avoidance of deception in transactions (Alsmadi et al., 2023). This principle is particularly relevant in the digital realm, where algorithms and automated systems have the potential to manipulate information or decision-making processes in ways that may be detrimental to users. Ethical Islamic fintech solutions must prioritize transparency, ensuring that users have a clear understanding of the processes involved and the implications of their actions. Additionally, *Fiqh al-Mu'amalat* promotes the concept of *maslahah*, or the consideration of public interest and the common good in decision-making (Nigeria & Trust, 2015). This principle can guide the development of technological solutions that prioritize societal well-being over individual or corporate interests. For instance, the utilization of Islamic fintech (i-fintech) can contribute to sustainable and inclusive growth, expanding financial access and supporting entrepreneurship and economic empowerment in underserved communities (Azman et al., 2020).

Moreover, central to *Fiqh al-Mu'amalat* is the principle of fairness, which mandates equitable treatment in all transactions (Azman et al., 2020). This principle can be applied to online commerce and digital financial transactions, ensuring that all parties are treated justly and that no party is disadvantaged. Transparency is crucial in digital interactions, where information asymmetry can lead to exploitation. *Fiqh al-Mu'amalat* emphasizes clear and honest communication, which is essential in e-commerce platforms and digital contracts to prevent misunderstandings and fraud (Muhammad, 2020). The requirement for mutual consent in transactions

ensures that all parties willingly agree to the terms. In the digital realm, this principle safeguards against coercive practices and ensures that users are fully informed before engaging in any transaction. Islamic ethics, as outlined in *Fiqh al-Mu'amalat*, demand adherence to ethical business practices, prohibiting fraudulent or exploitative behaviours. This is particularly relevant in digital marketing and online sales, where ethical standards must be maintained.

By applying the principles of *Fiqh al-Mu'amalat* to contemporary technological challenges, Muslims can navigate the digital scene with integrity, ensuring that their interactions and transactions align with Islamic ethical standards. This approach not only upholds the values of justice and transparency but also fosters trust and accountability in digital commerce.

6.3. The Concept of Ijtihad in Adapting Islamic Ethics to Technological Changes

Ijtihad, the process of independent reasoning in Islamic jurisprudence, plays a crucial role in adapting Islamic ethics to the rapidly changing technological terrain (Rahim & Ibrahim, 2018). This process involves interpreting Islamic sources to derive rulings that address new and complex ethical challenges. In the digital age, Ijtihad enables Muslims to confront ethical dilemmas arising from technological advancements. Scholars engage in thoughtful discourse, drawing from the Qur'an, Hadith, and scholarly interpretations, to provide guidance on contemporary issues. For instance, they can evaluate the ethical aspects of technologies like artificial intelligence, social media, and biotechnology, offering insights on their responsible use within an Islamic ethical framework. This underscores the importance of collaboration among Muslim scholars, experts, and professionals from various fields to develop effective strategies for addressing emerging issues and guiding the Muslim community. *Ijtihad* also empowers individuals to apply independent reasoning, guided by Islamic ethics, in navigating technological challenges. In this context, Muslims are encouraged to seek knowledge, reflect ethically, and consult scholars to make informed decisions about technology use.

The concept of *ijtihad* has been increasingly applied to various aspects of Information and Communication Technology (ICT) to address contemporary ethical and legal challenges, including software piracy, cybercrime, digital privacy, social media ethics, and artificial intelligence (AI). Islamic scholars and organizations have issued numerous fatwas (Islamic legal rulings) on these matters. For instance, the ethical and legal status of software piracy has been a subject of debate among scholars, particularly regarding whether it constitutes theft (sariqah) or falls under fair use. The prevailing opinion among Islamic jurists is that software piracy is prohibited, as it involves the unlawful consumption of another's property. Notably, Sheikh Muhammad bin Salih al-Uthaymeen, a distinguished Saudi scholar, ruled that copying copyrighted material without permission is analogous to theft and is therefore impermissible in Islam (Al-Madina, 2015). Similarly, Sheikh Ahmad Kutty, a senior lecturer and Islamic scholar at the Islamic Institute of Toronto, emphasized that software piracy, as ruled by the World Council of Muslim Jurists, amounts to intellectual property theft, which no Muslim should consider engaging in (About Islam, 2025). Equally, cybercrimes such as hacking and unauthorized access to personal data have been deemed haram unless conducted for legitimate purposes, such as ethical hacking for cybersecurity. The Dar al-Ifta of Egypt, for example,

issued a fatwa categorizing hacking as a form of injustice (*zulm*), permissible only with the owner's consent (Komaruddin et al., 2023).

In the realm of digital privacy and social media ethics, Islamic scholars have strongly condemned acts such as unauthorized surveillance, spying on personal data, and sharing private messages without consent. The Grand Mufti of Saudi Arabia, Sheikh Abdulaziz Al-Sheikh, issued a fatwa explicitly stating that leaking private conversations or hacking social media accounts constitutes a sinful act (Saputra et al., 2022). Moreover, the integration of AI into financial practices, including automated zakat calculations and smart contracts in Islamic banking, has been examined by contemporary scholars. The International Islamic Fiqh Academy has ruled that AI-assisted financial decisions are permissible, provided they adhere to Islamic ethical principles (Komaruddin et al., 2023). Additionally, online gambling, including e-sports betting, has been unequivocally prohibited by Islamic scholars, as it falls under *maysir* (gambling), which is strictly forbidden in Islam. For instance, the Indonesian Ulema Council (MUI) has issued a fatwa declaring that online games containing gambling elements are haram (Rizky et al., 2023). These rulings illustrate the dynamic application of ijtihad in addressing the evolving ethical and legal concerns of the digital age within an Islamic framework.

By embracing Ijtihad, Muslim scholars and fatwa councils can help the ummah ensure their engagement with technology aligns with Islamic values, allowing them to navigate the digital world while fulfilling their religious duties. Islamic ethical frameworks, including *Maqasid al-Shariah*, *Fiqh al-Mu'amalat*, and Ijtihad, provide Muslims with essential tools for addressing the ethical challenges posed by technology. These frameworks help Muslims assess the compatibility of new technologies with Islamic values, ensure fairness in digital transactions, and adapt ethics to changing technological contexts. By incorporating these principles, Muslims can make responsible choices and contribute to building a virtuous and ethical digital society.

7. IMPLICATIONS FOR INDIVIDUALS, POLICYMAKERS, AND LARGE

The implications of this study are extensive and impact individuals, policymakers, and society at large. For individuals, it emphasizes the importance of being mindful and responsible in their use of technology. Muslims, in particular, are encouraged to align their digital interactions with Islamic ethics, promoting truthful speech, privacy rights, fairness, and accountability. Individuals should strive to foster positive online behaviour, cultivate a virtuous digital community, and make informed choices regarding their engagement with technology. On their part, policymakers have a crucial role in shaping the ethical dimensions of the digital age. They should consider the ethical implications of technology and develop policies that safeguard privacy, promote fairness and justice, and ensure accountability and overall security of persons and property. By incorporating Islamic ethical perspectives into policy frameworks, policymakers can create an environment that upholds Islamic values and fosters a virtuous digital society.

At the societal level, this discourse highlights the importance of promoting ethical awareness and education regarding technology. Muslim organizations, educational institutions, and community leaders can play a vital role in raising

awareness about the ethical challenges of the digital age and providing guidance on responsible and ethical technology use. Building a culture of ethical digital engagement requires collective efforts to foster a virtuous and ethical society.

8. FUTURE CONSIDERATIONS AND RECOMMENDATIONS

As technology continues to evolve at a rapid pace, it is essential for Muslims to stay informed and engaged in ongoing discussions regarding the ethical challenges of the digital age. Continuous education and awareness are crucial; Muslims should actively seek knowledge and remain updated on technological advancements and their ethical implications. This includes understanding the potential risks and benefits associated with emerging technologies, as well as staying informed about current ethical debates and discussions. Likewise, promoting interdisciplinary collaboration is vital for the development of ethical codes and guidelines. Muslim organizations, scholars, and professionals should collaborate to create ethical codes tailored to the digital age, focusing on privacy, online conduct, and responsible utilization of AI. This interdisciplinary approach will consider both Islamic ethical principles and the pragmatic realities of the digital world, ensuring a harmonious integration of these two realms.

As a matter of imperative, ethical design and responsible innovation should be encouraged among developers, engineers, and designers. They should adopt ethical design principles, prioritize user privacy, data protection, and minimize potential harm. Responsible innovation involves proactive measures to anticipate and address ethical concerns from the early stages of technological development. Ethical leadership and role models are essential in Muslim communities. Leaders, whether religious, educational, or social, should demonstrate ethical behaviour in their digital engagement. They should serve as role models by promoting ethical conduct, responsible use of technology, and fostering a positive online environment. Ethical dialogue and discourse should be actively pursued within communities, mosques, educational institutions, and online platforms. Muslims should explore the ethical dimensions of emerging technologies and seek guidance from scholars and experts who can provide Islamic perspectives on contemporary issues.

9. CONCLUSION

Islamic ethics offer Muslims a solid basis for navigating the ethical issues of technology in the digital era. Individuals, policymakers, and society can acquire insights and direction on responsible and ethical technology usage by referring to the Qur'ān, Hadith, and scholarly interpretations. The principles of truth, fairness, privacy, and responsibility in Islamic ethics serve as helpful guides for confronting modern ethical dilemmas. Based on the discussion above and the proposed considerations and recommendations, it is appropriate to conclude that creating a virtuous and ethical digital society requires individuals to apply Islamic ethics in their digital interactions, policymakers to develop ethical policies, and society to foster an environment that promotes ethical awareness and education.

Ultimately, by emphasizing the ethical dimensions of technology and encouraging further research and the development of ethical guidelines in the Islamic context, we can collectively address the ethical challenges of the digital age

and strive for a harmonious integration of technology and Islamic values. Finally, while this paper provides a comprehensive understanding of Islamic ethics in the digital age, there is a need for further research and the development of specific ethical guidelines in the Islamic context. Future research should explore emerging technologies, their ethical implications, and their compatibility with Islamic principles. This research can contribute to the development of comprehensive ethical guidelines tailored to the digital age, providing practical recommendations for Muslims in navigating the ethical challenges posed by technology.

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