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Comprehensive Review on Islamic Ethics and the Rise of Technology

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ABSTRACT

This systematic literature review delves into the intersection of Islamic ethics and the burgeoning realm of technology. The introduction provides an overview of the significance of this synergy. The problem-solving section analyses ethical challenges arising from technological advancements. The method entails an advanced searching with comprehensive search and evaluation of scholarly articles at Scopus and Mendeley with PRISMA. Expectations include uncovering insights into reconciling Islamic values with technological progress. The results highlight key ethical concerns and potential solutions. The conclusion underscores the importance of aligning technology with Islamic ethical principles. The paper points out important substantive and methodological gaps and emphasizes the evolving nature of Islamic discourses on this issue. Future work entails exploring implementation strategies and fostering dialogue among people in this field.

1. Introduction

In the contemporary landscape, the rapid advancement of digital technology has ushered in a new era of unprecedented connectivity, convenience, and transformative possibilities [1]. This pervasive influence of digital technology has touched every facet of human existence, altering the way individuals interact, communicate, access information, and conduct daily activities [2]. As the digital realm continues to expand its reach, it inevitably intersects with various cultural, social, and ethical frameworks, prompting profound questions about its compatibility with longstanding ethical traditions [3].

This systematic literature review delves into the intricate interplay between Islamic ethics and the burgeoning domain of digital technology. Rooted in a rich history and philosophy, Islamic ethics offer a comprehensive framework for guiding human behaviour, emphasizing values such as justice, compassion, accountability, and the pursuit of the common good [4]. As the digital age reshapes

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societal norms, it becomes imperative to explore how Islamic ethical principles harmonize, conflict, or evolve in response to the challenges and opportunities presented by digital technology [5].

The objectives of this review are threefold:

- i. **Examine Ethical Implications:** The review seeks to meticulously analyse existing scholarly works that address the ethical dimensions of the proliferation of digital technology in predominantly Islamic societies [6]. It will scrutinize the ethical dilemmas arising from technological trends, such as privacy concerns, digital identities, surveillance, artificial intelligence, and the impact of social media on moral conduct [7].
- ii. **Evaluate Responses and Adaptations:** The review will assess how Islamic scholars, theologians, and thinkers have engaged with the ethical predicaments posed by digital technology [8]. This includes exploring adaptations, reinterpretations, or novel perspectives that Islamic ethics may take to address contemporary challenges while staying true to its core values [9].
- iii. **Identify Future Trajectories:** By integrate the findings from the written works, the appraisal aims to single out potential trajectories for the coexistence of Islamic ethics and digital technology [10]. It will highlight areas of synergy, tension, and possible pathways for future ethical discourse and policy-making in the digital age [11].

Through a systematic analysis of peer-reviewed articles, books, and other relevant sources, this review aspires to contribute to a nuanced understanding of the multifaceted relationship between Islamic ethics and digital technology [12]. By shedding light on the ethical considerations within this dynamic intersection, the gap shown by this study endeavours to provide valuable insights for academics, policymakers, technology developers, and individuals invested in fostering an ethically conscious digital society within an Islamic context [13].

2. Literature Review

Islamic Ethics and the Rise of Technology situates the opinions of medical experts [14] within regional, nation, culture along with more general standardizing legitimate Islamic contexts and exemplifies the use of technology in Qatar a majority Muslims country are influenced by a vast of societal standards [15]. Some articles also contends that the absence of regulations and rules governing the donation of sperm, eggs, and embryos presents a host of ethical issues [16]. It damages the pure Islamic ethics when Third-party donation has been carried out only in accordance with religious decrees, with no consideration for the welfare and security of donor children, donors, or recipient spouses [17]. Overall, it emphasizes the distinction between treatment and augmentation and contends that it is highly subtle in Islamic discourses [18]. The study highlights significant conceptual and methodological gaps and highlights how Islamic discourses on this subject are still developing [19].

In this area of studies IVG use is a concern in this field of research even though its efficacy and safety are assured. It can only be acceptable by strictly abiding by Islamic ethical principles regarding marital, biological/genetic correlated, fornication, and the upright standard of the unborn child [20]. This is the result of a comprehensive analysis of the Islamic ethical implications of several prospective IVG uses in human prolific study, as well as an evaluation of the benefits and harms of the outcomes [21]. Technology permeates every aspect of our environment [22]. Today, we encounter nature infrequently, and technology is frequently used to filter our interactions with the outside world. Technology has apparently been viewed in the Islamic world for a long time as an innocent tool with

purely utilitarian use [23].

As a result of the brainwashed of the secular interest in the present day, Tabtab'i claims that the mess from technology is founded in a departure from "the golden mean" of Islamic guideline [24]. In countries like Iraq, the positive perception of scientists and religious experts towards the relation to the morality and religious stances of various biotechnology experiments was the subject of an advanced biotechnology investigation shows [25]. However, there are also among scientists and Islamic scholars that creates misunderstandings and from lack of knowledge regarding the concept of Islamic ethical, difficulties occurred harassing the surrounding modern biotechnology projects and only a few are people were aware of the moral dilemmas raised by some of these technology [26].

Furthermore, some reports reconstruct the socio-technical history of halal slaughter, highlighting ways into three stages and establishing mutuality separating nonreligious and Islamic animal morality. It highlights the potential for a trans-cultural animal anthropology that acknowledges the profession's peculiarities while pushing for a more inclusive understanding of science and culture [27]. On top of that, Eugenics, the practice of breeding healthier, stronger, and more intelligent humans, has been criticized for its potential harm to future generations and also not to mention the effect of ultrasonic vibration [28]. This study aims to explore the moral issues and potential risk management considerations in genomic investigations, highlighting the importance of Islamic Sharia [29].

Table 1
 Demographic and Religious Comparisons of Scientists across Eight Regions (Percentages) [25]

	France	Hong Kong	India	Italy	Taiwan	Turkey	United Kingdom	United States
Female	30	26	34	38	32	40	38	32
Born out of nation	26	58	1	13	4	5	45	42
Currently married or living as married	81	56	59	63	61	70	61	67
Has two or more children	55	25	24	30	35	30	25	26
Identifies with some religious affiliation	30	31	94	65	58	84	37	39
Identified with some religious affiliation at age 16	53	20	98	84	48	90	55	60
Claims to be at least slightly a religious person ^a	16	39	59	52	54	57	27	30
Reports praying once a day or more	3	11	48	17	13	54	9	11
Reports attending religious services weekly	3	13	26	17	12	33	8	11
I know God exists, no doubts ^b	5	17	26	16	20	61	9	10
N	645	276	1,606	1,262	776	431	1,531	1,779

*a – Includes the response categories "a very religious person", "a moderately religious person", and "a slightly religious person". Those who said that they "don't know" were included in the denominator

*b - In India, Taiwan and Hong Kong, respondents were asked separate questions for whether they believe in one or many gods and for their level of confidence in their belief in god/gods if they have such a belief. We combine these questions to parallel the question asked in other nations.

3. Material and Methods

3.1 Identification

The systematic review process consists of three basic phases that were used to choose many relevant papers for this study. The first phase entails the identification of keywords and the search for associated, related terms using thesaurus, dictionaries, encyclopaedias, and prior research.

Following the selection of all pertinent terms, search strings for the databases Scopus, and Mendeley (see Table 2) have been developed. The current research endeavour effectively obtained 5401 papers from both databases during the first stage of the systematic review process.

Table 2

The search strings

Scopus	TITLE-ABS-KEY (islam* AND ethic* AND technology*) AND (LIMIT-TO (PUBYEAR , 2021) OR LIMIT-TO (PUBYEAR , 2022) OR LIMIT-TO (PUBYEAR , 2023)) AND (LIMIT-TO (LANGUAGE , "English")) AND (LIMIT-TO (PUBSTAGE , "final")) AND (LIMIT-TO (DOCTYPE , "ar"))
Mendeley	Islam AND ethic AND technology

3.2 Screening

Duplicate papers should not be taken into consideration during the initial screening process. In the first phase, 5305 papers were rejected based on various inclusion-and-exclusion criteria developed by researchers. In the second phase, 96 articles were reviewed. Literature (research articles) was the first criterion because it is the primary source of relevant knowledge. The current study also does not include publications that take the form of systematic reviews, reviews, meta-analyses, meta-synthesis, book series, books, chapters, or conference proceedings. The review was also restricted to English-language research. It's vital to keep in mind that the schedule was designed for the ten-year period (2021-2023).

3.3 Eligibility

For the third step, known as eligibility, a total of 96 articles have been prepared. All articles' titles and key content were thoroughly reviewed at this stage to ensure that the inclusion requirements were fulfilled and fit into the present study with the current research aims. therefore, 66 reports were omitted because they were full text excluded, due to out of field, title not significantly, abstract not related on the objective of the study, no full text access based on empirical evidence. Finally, 30 articles are available for review (see Table 3).

Table 3

The Selection Criterion is Searching

Criterion	Inclusion	Exclusion
Language	English	Non-English
Time line / Years	2021– 2023	< 2021
Literature type	Journal (Article)	Conference, Book, Review
Publication Stage	Final	In Press

3.4 Data Abstraction and Analysis

In this study, a number of research designs (quantitative, qualitative, and mixed techniques) were examined and synthesized using an integrative analysis as one of the assessment strategies. The competent study's objective was to determine pertinent subjects and subtopics. Data collection was the initial phase of the theme's development. Figure 2 demonstrates how the authors carefully scrutinized a collection of 30 publications for claims or information pertinent to the subjects of the current investigation. The authors then assessed recent significant studies on the classification of Islamic ethics in the rise of technology. Investigations are being conducted into both the research findings and methods employed in all studies. The author then worked with other co-authors to

create themes based on the data in the context of this study. Throughout the data analysis process, a log was kept to note any analyses, opinions, puzzles, or other ideas that might be pertinent to the data interpretation. The writers then compared the findings to look for any discrepancies in the theme design procedure. It is important to note that the writers discuss any differences in the concepts among themselves if there are any. Final adjustments were made to the themes created to guarantee uniformity. Two specialists, one in social science behaviour and the other in technology, carried out the analysis selection to ascertain the legitimacy of the issues. The expert review phase makes that each document is clear, significant, and appropriate.

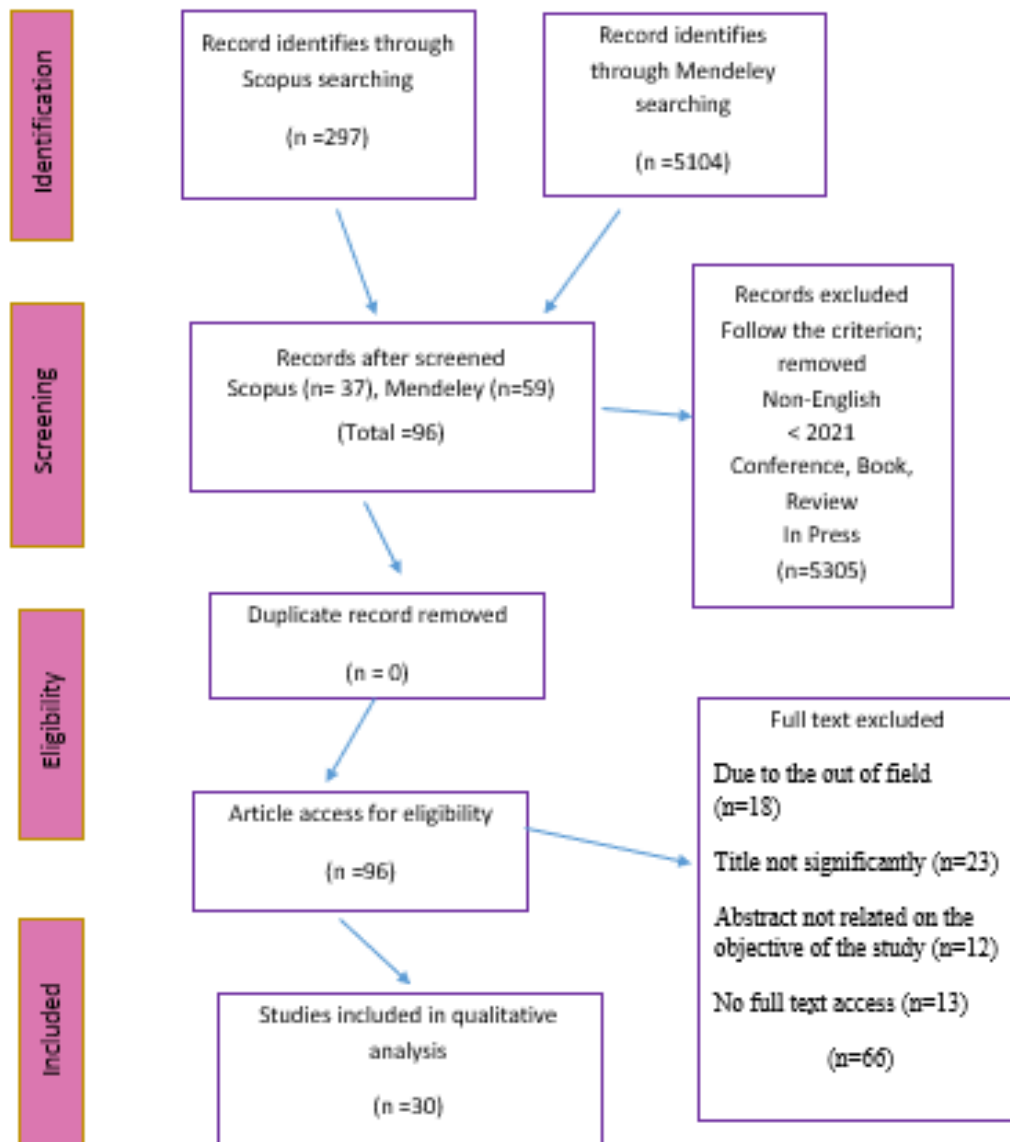


Fig. 1. Flow diagram of the proposed searching study [30]

4. Result and Finding

4.1 Contributions

Overall, it is fair to say that technologies have given many contributions to the field of neuroethics and medical science, it has made great progress opposing the Islamic bioethical perspective on cloning and genetics foresees potential threats [31] and together with Heidegger's concepts and

Tabtab'i virtue ethics were considered and claims that the technical conundrum is a result of modern secularization [24]. Nanotechnology contribute focusing in the progression on biomedical fields such as cancer treatments [32]. Faith-based organizations such as MADE opposed neoliberal trends as part of the British government's "Big Society" plan in the early 2010s [33]. Regardless of how we see it, this discipline focuses on the socio-technical development of halal slaughter and emphasizes its connection with Islamic animal ethics [34] and it gives hopes for a future cross-cultural veterinary anthropology and questions the current divide between science and culture in the West and the rest of the world [35]. Muslim volunteers' brain activity increased when shown images of halal products, study using fMRI suggests multinational companies should combine ethically sound and healthy advertising psychological appeal to increase your chances of success in the Islamic market [36].

There are articles as well examines the legal and regulatory ramifications of using CRISPR-Cas9 for human germline editing and argues that therapeutic use could be permitted if safety and efficiency is resolved [37]. The review also shows with the rise of technology it helps and examines the moral principles of Sunni Muslim physicians with relation to reproductive technology, and it finds that 14 fertility treatments are accepted by 689 physicians [38]. The study investigates the use of assisted reproductive technologies (ARTs) in Qatar [19] with a focus on the moral conundrums that doctors encounter and the value of ethical, legal, professional, and cultural norms [39], It further looks at the connection between religion and business, concentrating on ethics, leadership orientation, CSR, and company culture [40]. Through spirituality groups and religious activities, the Nahdatul Ulama community, which incorporates rural Sufism, has adjusted to changing social, religious, and cultural features of their area [41], the NU community sees Islam as a social ethic that supports societal cohesion and morality while attempting to teach life. Adding to that an article mentioned the eminent scientist and philosopher Abu Nasr al-Farabi made a great contribution to science and ethics by combining Islamic and pre-Islamic traditions and emphasizing the value of a "rule" [42].

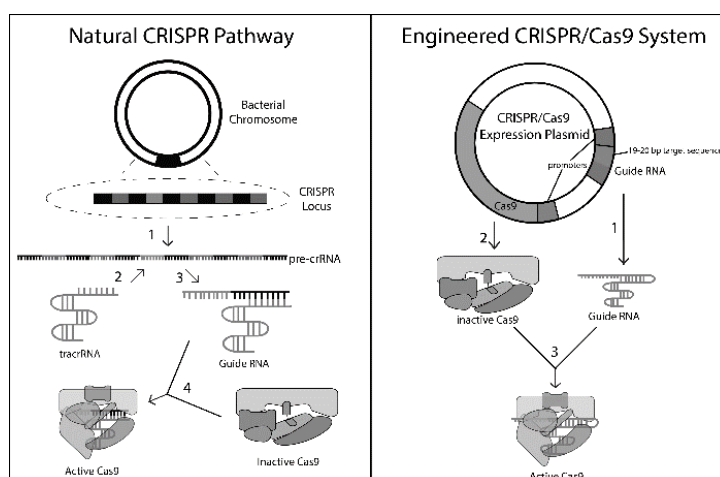


Fig. 2. CRISPR/Cas9: Regulations and challenges for law enforcement to combat its dual-use [19]

4.2 Challenges

The challenges in this field is exploring Islamic perspectives on human genetic modification, emphasizing the need for cross-cultural communication to address moral dilemmas [43] and also how Islamic ethics can help reduce failure in Islamic crowd funding like in country such as Indonesia [44] also on how it affected the tech-based paradigm of Silicon Valley, contrasted with Islamic

entrepreneurship, with a focus on systemic complexity and stakeholder satisfaction to suit the needs [45]. Other area of challenges are the moral conundrums of contemporary urbanisation in developing nations, emphasizing the necessity of a post promethean philosophy [46] and that Islamic medical ethics could combine various ethical epistemologies to solve gender issues, particularly in women's reproductive health [47].

Looking the challenges at the during the Covid-19 pandemic, these challenges has prompted Muslims to rely on reliable sources and adopt smart technologies, particularly in education [48] also analyses secondary sources to provide Islamic viewpoint on the morality of operating recently founded medium in education and Fintech's role in post-COVID-19 recovery. It highlights the Islamic banking system's competitive advantage and the potential of financial methods and Islamic commercial use to mitigate profitable effects [49].

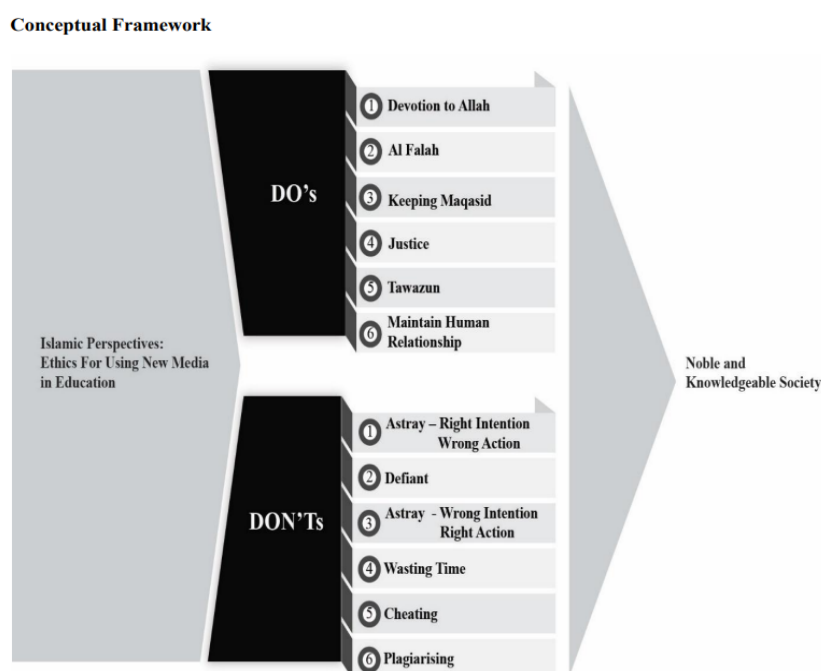


Fig. 4. Education During Covid19: Ethics for Using New Media [48]

4.3 Contradictions

Firstly, it highlights the influence of cultural standards using technology and Islamic moral precepts on hospital neonatal management. Articles shows on how advancements in human reproductive technology, such as preimplantation genetic diagnosis and HLA typing, can help children with haematological conditions have matched stem cell donors [50]. This field of study devours into a promising assisted reproductive technology called in vitro gametogenesis (IVG) produces gametes in a lab setting from stem cells [51]. Moreover in Asian countries, Islamic ethical concerns arise in diverse religious landscapes like Malaysia and the study connected with Generation Z's adoption of eco-friendly vehicles in Pakistan [52] and the contradiction shows in enhancing technological instruction at the State Islamic University of West Java [53]. Contradictions also apparently shows like Mario Bunge's philosophy on technology ethics emphasizes man's importance over nature, resource exploitation, and moral irresponsibility [54]. Collected review also highlights the morality of new media, particularly social media and online platforms, and the duties of businesses and stakeholders in the rapidly changing technological landscape, referring a case study on the 2019 Christchurch terrorist attacks [55].

Iraq for example that applies Islamic ethics shows two studies highlight ethical concerns regarding environmental corruption and religious influence in biotechnologies, limiting access to primary infertility treatment and genetic disease prevention [26] and not to mention on how religious communities were divided over in-vivo meat 3D bioprinting despite Sharia's concerns, has potential applications in food and health, and experts advise in-depth study of Sharia's-compliant guidelines for Muslims [56]. In the bargain, the proponents of in vitro meat (IVM) think it can address concerns about animal welfare and the environment related to the production and consumption of meat. But there were questions regarding its advantages because of the ambiguous production conditions and the paucity of ethical discussions were involved [57].

5. Discussion and Conclusion

5.1 Contributions

In summary, Islamic ethics have made significant contributions to the fields of neuroethics, technology, and bioethics. Islamic perspectives on cloning and genetics have highlighted potential ethical challenges. Heidegger's concepts and Tabtab'i virtue ethics have been considered in the context of technology, addressing modern secularization issues. Islamic bioethical thought emphasizes the socio-technical development of halal practices and their connection to animal ethics. Faith-based organizations like MADE have opposed neoliberal trends. Abu Nasr al-Farabi bridged Islamic and pre-Islamic traditions, emphasizing ethical values. Studies show that ethically sound and culturally sensitive advertising is crucial in the Islamic market. The review also delves into the legal and moral aspects of technologies like CRISPR-Cas9 in human germline editing. It highlights Muslim physicians' moral principles regarding reproductive technology and acceptance of various fertility treatments. Additionally, the review explores the impact of religion on business ethics and culture. Some community exemplifies how Islam can shape societal cohesion and morality through spirituality and religious activities, adapting to changing cultural dynamics.

5.2 Challenges

The intersection of Islamic ethics and technology presents challenges, including navigating Islamic perspectives on human genetic modification, improving Islamic crowd funding success rates in Muslim country, and contrasting tech-based Valley paradigm with Islamic entrepreneurship. Addressing moral dilemmas in urbanization in developing nations is crucial, and a post-promethean philosophy is needed in Islamic medical ethics to resolve gender issues. The COVID-19 pandemic has accelerated reliance on reliable sources and smart technologies, necessitating a deeper exploration of Islamic stance on the morality of applying digital lifestyle and Fintech in post-pandemic recovery, emphasizing the competitive advantage of the Islamic banking system and its potential to mitigate economic effects.

5.3 Contradictions

The rise of technology and Islamic ethics presents a complex landscape with both opportunities and challenges. Cultural norms and Islamic moral principles influence technology adoption, such as neonatal management and eco-friendly vehicle choices. Advancements in human reproductive technology offer potential benefits, but ethical concerns, especially in religious contexts like Malaysia, demand careful consideration. Mario Bunge's technology ethics philosophy questions the balance between human importance, resource exploitation, and moral responsibility. The review

emphasizes the ethical dimensions of new media, particularly social media and online platforms, underscoring the responsibilities of businesses and stakeholders in the rapidly evolving technological world. In developing countries, ethical concerns intersect with environmental issues and religious influence, impacting access to treatments and debates over innovations.

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