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INTEGRATING AI CHATBOTS INTO HALAL PRACTICES: PRINCIPLES, PARAMETERS, AND GUIDELINES

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ABSTRACT

This study addresses the challenge of integrating AI chatbots into halal practices while adhering to Islamic principles. It aims to identify fundamental Islamic principles governing AI chatbot development, define parameters for their functionality, establish ethical guidelines, and develop a comprehensive framework for their implementation in halal contexts. Employing a qualitative approach through library research, the study analyzes Islamic scholarly texts, academic literature, and contemporary studies on AI in Islamic contexts. The findings reveal that AI chatbots can be considered permissible under Islamic law, subject to conditions aligning with the principles and objectives of Shariah. The study proposes a framework for AI chatbot use in halal domains, emphasizing the importance of accuracy, comprehensive knowledge, user qualifications, and ethical considerations. Guidelines for implementation include ensuring chatbot outputs do not contradict primary Islamic sources, limiting their role to information provision, and maintaining human oversight. The research contributes to the growing discourse on technology in Islamic contexts, offering a structured approach to integrating AI chatbots in halal practices while preserving Islamic values.

Keywords: *AI-Chatbots, Halal, Principles, Guidelines, Integration*

INTRODUCTION

The hasty advancement of artificial intelligence (AI) and its applications has sparked significant interest across various domains, including those governed by religious principles. In the context of Islamic practices, the concept of halal—which encompasses permissible actions and substances according to Islamic law—has begun to intersect with AI technology, particularly in the form of chatbots (Ahmad et al., 2018). This intersection presents both opportunities and challenges, necessitating a careful examination of how AI chatbots can be integrated into halal practices while maintaining adherence to Islamic values and principles.

Halal practices cover a wide range of activities, from dietary restrictions to financial transactions, all guided by Islamic teachings (Khoirunisa et al., 2023). As the global Muslim population continues to grow, the demand for halal products and services is expected to increase correspondingly. This growth has led to the exploration of innovative technologies to meet the needs of Muslim consumers and businesses operating within halal parameters.

AI chatbots, powered by natural language processing (NLP) and machine learning algorithms, have emerged as powerful tools for enhancing customer service, information dissemination, and decision support across various industries (Battour et al., 2021). These conversational AI systems offer the potential to revolutionize how individuals and organizations interact with halal-related information and services. For instance, chatbots could provide instant guidance on halal food ingredients, assist in Islamic financial transactions, or offer advice on halal travel options (Battour et al., 2023).

However, the integration of AI chatbots into halal practices is not without challenges. Islamic principles emphasize ethical considerations, transparency, and the preservation of human dignity, which may not always align with the current capabilities and limitations of AI systems (Nawi et al., 2021). There are concerns about the accuracy of information provided by chatbots, the potential for bias in their responses, and the ethical implications of relying on AI for matters of religious significance (Hemmet, 2023).

Moreover, the development and deployment of AI chatbots in halal contexts raise questions about data privacy, the role of human oversight, and the boundaries of AI decision-making in religious matters. These concerns underscore the need for a comprehensive framework that addresses the technical, ethical, and religious aspects of integrating AI chatbots into halal practices (Nawi et al., 2023).

Previous research has explored the use of AI in various Islamic contexts, such as automated halal food certification processes (Abu Bakar & Rosbi, 2019) and AI-assisted Islamic finance (Gazali et al., 2020). However, there is a notable gap in the literature regarding the specific challenges and opportunities presented by AI chatbots in halal practices. This gap highlights the importance of developing guidelines and principles that can ensure the responsible and ethical integration of chatbot technology while maintaining alignment with Islamic values.

RESEARCH PROBLEM

The integration of AI chatbots into halal practices presents a complex challenge that requires careful consideration of both technological advancements and Islamic principles. While AI chatbots offer significant potential to enhance halal-related services, information dissemination, and compliance efforts, their implementation raises several critical issues. These include the need for clear principles and guidelines for developing halal-compliant AI chatbots, defining parameters and boundaries for AI chatbot functionality in halal contexts, and establishing best practices for the responsible and ethical use of AI chatbots in halal domains.

Existing literature and industry practices reveal a significant gap in addressing the specific challenges of integrating AI chatbots into halal practices. While research has been conducted on AI applications in various Islamic contexts, such as halal certification (Abu Bakar & Rosbi, 2019), Islamic investments (Gazali et al., 2020), and halal tourism (Battour et al., 2023), there is a notable absence of comprehensive frameworks that specifically guide the development, deployment, and governance of AI chatbots in halal domains. This gap encompasses the lack of a systematic approach to aligning AI chatbot technology with Islamic principles and values, insufficient exploration of the ethical implications of using AI chatbots for halal-related purposes, and limited understanding of how to balance technological innovation with adherence to halal principles in the context of conversational AI.

RESEARCH QUESTIONS

This research attempts to answer the following questions:

i. What are the key Islamic principles that should govern the development and deployment of AI chatbots in halal practices?
ii. How can the functionality and scope of AI chatbots be defined and limited to ensure compliance with halal requirements while maximizing their benefits?
iii. What are the ethical considerations and best practices for implementing AI chatbots in halal domains?
iv. How can a comprehensive framework be developed to guide the integration of AI chatbots into halal practices while maintaining alignment with Islamic values?

RESEARCH OBJECTIVES

This research aims to achieve the following objectives:

i. To identify and analyze the fundamental Islamic principles that should guide the development and implementation of AI chatbots in halal contexts.
ii. To define the parameters and boundaries for AI chatbot functionality in halal practices, establishing clear guidelines for permissible use cases and limitations.
iii. To investigate and establish ethical guidelines and best practices for the responsible use of AI chatbots in halal domains, addressing potential conflicts between technological capabilities and religious requirements.
iv. To develop a comprehensive framework that integrates Islamic teachings, technological considerations, and ethical guidelines for the successful implementation and governance of AI chatbots in halal practices.

RESEARCH METHODOLOGY

This study employs a qualitative approach, specifically utilizing library research as the primary method of data collection and analysis. This methodology is particularly suitable for exploring complex topics that require in-depth understanding and interpretation of existing literature and theoretical frameworks. Key aspects of this methodology include:

Data Collection:

The research will rely on sources available in libraries, academic databases, and online repositories. Sources will include Islamic scholarly texts, academic journals, books, conference proceedings, and reputable online publications related to AI, chatbots, halal practices, and Islamic ethics. Both historical and contemporary sources will be considered to ensure a comprehensive understanding of the topic.

Data Analysis:

i. Content Analysis: Systematically reviewing and interpreting the collected texts to identify themes, patterns, and concepts relevant to the research questions.
ii. Comparative Analysis: Comparing and contrasting different viewpoints, theories, and practices found in the literature to gain a nuanced understanding of the topic.

iii. Thematic Analysis: Identifying recurring themes and subthemes across the literature to develop a coherent framework for integrating AI chatbots into halal practices.

This qualitative library research methodology allows for a comprehensive exploration of the complex interplay between AI technology, Islamic principles, and halal practices. It provides the flexibility to delve deep into theological, ethical, and practical considerations while synthesizing diverse perspectives to develop a robust framework for integrating AI chatbots into halal practices.

LITERATURE REVIEW

The integration of Artificial Intelligence (AI) into halal practices has emerged as a significant area of research, spanning various sectors including finance, tourism, marketing, and ethical guidelines. This literature review analyzes the key themes, findings, and implications of recent studies in this field.

AI in Halal Certification and Product Verification

Abu Bakar and Rosbi (2019) proposed a robust framework for halal certification using AI methods. Their study introduced genetic algorithms and neural networks to improve halal testing processes, including DNA detection for pork and alcohol detection. The framework encompasses Halal Testing (HT), Safety Testing (ST), and Nutritional Testing (NT), offering a comprehensive approach to halal certification. This research highlights the potential of AI to enhance the accuracy and efficiency of halal certification processes, which is crucial for maintaining consumer trust in the global halal market.

Building on this, Bagundang and Gallo (2024) explored the role of various technologies, including AI, blockchain, and IoT, in improving halal certification and traceability. Their study emphasizes the transformative potential of these technologies in enhancing transparency, efficiency, and integrity throughout the halal supply chain. This research underscores the growing importance of technological advancements in addressing challenges within the halal ecosystem.

AI in Islamic Finance and Investment

Gazali et al. (2020) examined the application of AI in Islamic investments, focusing on text mining, algorithmic trading, stock picking, and robo-advisors. Their study revealed that AI technologies could significantly enhance decision-making processes in Shariah-compliant investments, potentially improving market analysis, risk mitigation, and overall investment performance. The research also highlighted the need for further development of AI applications that adhere to Islamic principles in financial services.

More recently, Ahmad et al. (2024) investigated the impact of AI-based chatbots on the value and profitability of Islamic Financial Institutions (IFIs) in OIC countries. Their quantitative study found positive relationships between chatbot usage and key financial indicators such as Return on Assets (ROA), Return on Equity (ROE), and Tobin's Q (TBQ). These findings suggest that AI technologies, particularly chatbots, can contribute significantly to the financial performance of IFIs, emphasizing the importance of technological innovation in the Islamic finance sector.

AI in Halal Tourism

Marlinda et al. (2020) and Battour et al. (2021, 2023) explored the application of AI in halal tourism. Marlinda et al. focused on South Korea, analyzing AI applications supporting halal tourism policies. Their study found that over 50% of the examined AI applications were beneficial for Muslim tourists, indicating the positive impact of AI on halal tourism implementation.

Battour et al. (2021) provided a comprehensive review of AI applications across various phases of the Muslim tourist journey, including planning, staying, and evaluation. They highlighted the potential of AI to enhance Muslim-friendly tourism experiences (MFTX) through personalized services, real-time assistance, and improved compliance with Islamic principles. Their 2023 study further developed a theoretical framework linking AI-enabled technologies to MFTX, offering valuable insights for tourism operators and service providers catering to Muslim tourists.

AI in Halal Marketing

Rahman et al. (2024) examined the application of AI in halal marketing, focusing on ethical considerations. Their study emphasized the need for AI implementations in halal marketing to align with Islamic principles of fairness, justice, and accountability. The research highlighted both opportunities and challenges, calling for the development of ethical AI algorithms and regulatory frameworks that respect Islamic values and consumer rights.

Nasution et al. (2024) investigated the adoption of AI-powered chatbots in halal marketing communications by SMEs. Their quantitative study revealed positive relationships between perceived usefulness, attitude towards chatbots, and adoption intention. These findings contribute to understanding the factors influencing AI chatbot adoption in the culturally sensitive context of halal marketing.

Ethical Considerations and Guidelines

Several studies focused on the ethical implications of AI in Islamic contexts and the need for comprehensive guidelines. Nawi et al. (2021, 2023) emphasized the importance of developing Islamic ethical guidelines for AI research and implementation. Their studies proposed using Maqasid al-Shari'ah as a fundamental parameter for creating ethical frameworks that protect human rights and interests, particularly for the global Muslim community.

Khoirunisa et al. (2023) explored both the opportunities and threats posed by AI to Islamic practices. While acknowledging AI's potential benefits, such as Quranic translation and halal product assurance, the study also highlighted risks including the potential misuse of AI for apostasy, radicalization, and terrorism. This research underscores the need for careful consideration of ethical and moral principles in AI development and application within Islamic contexts.

Hemmet (2023) provided a comprehensive analysis of the religious, social, and economic impacts of AI integration in Muslim-majority countries. The study examined various applications, including AI-based Quranic tools and Islamic Fintech, while also addressing concerns about job displacement and the need for human oversight in religious matters. This

research emphasizes the importance of balancing technological advancements with Islamic values and societal needs.

Synthesis and Implications

The reviewed literature reveals a growing body of research on AI integration in various halal-related domains. Key themes emerge across these studies:

i. Enhanced Efficiency and Accuracy: AI technologies show significant potential in improving halal certification processes, financial decision-making, and customer services across various sectors.
ii. Personalization and User Experience: AI applications, particularly in tourism and marketing, offer opportunities for more personalized and culturally sensitive services for Muslim consumers.
iii. Ethical Considerations: There is a consistent emphasis on the need to align AI implementations with Islamic principles and values, highlighting the importance of developing comprehensive ethical guidelines.
iv. Economic Impact: Several studies indicate the positive economic impact of AI adoption in Islamic finance and halal industries, suggesting potential for growth and competitiveness.
v. Challenges and Risks: Research also highlights potential risks and challenges, including privacy concerns, job displacement, and the need to maintain human oversight in religious matters.

Future Research Directions

The literature suggests several areas for future research:

i. Development of comprehensive, Islamic-based ethical frameworks for AI implementation across various sectors.
ii. Long-term studies on the impact of AI adoption on consumer trust and market growth in halal industries.
iii. Exploration of AI applications in other halal-related areas, such as education and healthcare.
iv. Investigating the role of AI in promoting cross-cultural understanding and facilitating global halal trade.
v. Examining the potential of AI in addressing challenges related to halal supply chain management and fraud detection.

In conclusion, the integration of AI in halal practices represents a dynamic and rapidly evolving field of study. While significant progress has been made in understanding the potential applications and implications of AI across various halal-related domains, there remains a need for continued research to address ethical considerations, optimize implementation strategies, and ensure that AI advancements align with Islamic principles and values.

DISCUSSION: FIQH ANALYSIS OF AI IN HALAL PRACTICES

Islamic Jurisprudence, characterized by comprehensiveness (*Syumul*), flexibility (*Murunah*) (‘Abd al-Qadir, 2011), and realism (*Waqi'iyyah*) (Shalabi, 1982), provides a robust framework for addressing contemporary issues. These qualities enable the integration of artificial

intelligence (AI) into fiqh perspectives, allowing scholars to examine and provide guidance on AI applications, including chatbots, within the context of halal practices and Islamic principles.

Islamic Jurisprudence is comprehensive in that it provides guidance for all aspects of human life, including emerging technologies. This characteristic allows for the inclusion of AI within fiqh discussions. The comprehensiveness of Islamic law means that it can address new issues like AI chatbots by applying established principles to novel situations. This ensures that Muslims can navigate the use of AI technologies while remaining within the bounds of their faith.

The flexibility of Islamic Jurisprudence allows it to adapt to changing times and circumstances without compromising its core principles. This flexibility is crucial when dealing with rapidly evolving technologies like AI. It enables scholars to interpret and apply Islamic principles to AI chatbots in a way that is relevant to contemporary needs while preserving the essence of Islamic teachings. This flexibility allows for the consideration of benefits and potential risks associated with AI in halal practices.

Islamic Jurisprudence is grounded in reality, taking into account the practical aspects of human life. This realism is essential when addressing AI technologies, as it requires considering the actual capabilities, limitations, and impacts of AI chatbots in real-world scenarios. It ensures that fiqh rulings on AI are not purely theoretical but are applicable and relevant to the lived experiences of Muslims in the modern world.

Additionally, Ahmad and Leeba (2018) highlight the increasing relationship between halal and technology, particularly in robotics and artificial intelligence. Their study emphasizes the need to consider halal principles in technological developments, especially in automated processes like slaughtering, to maintain Islamic compliance in halal products.

Islamic Jurisprudential View on AI Chatbots

The Islamic jurisprudential view on AI chatbots is rooted in several key principles of Islamic law. Firstly, based on the maxim "*al-asl fi al-ashya' al-ibahah*" (the original state of things is permissibility) as cited by al-Qaradawi (1999), AI chatbots can be considered permissible. This principle suggests that unless explicitly prohibited by Islamic law, new technologies and innovations are allowed, thus encompassing AI chatbots as a novel technology not specifically addressed in primary Islamic sources.

Furthermore, Al-Mushayqih (2015) argues that the ruling on means depends on their ends. In the context of AI chatbots, this implies that their permissibility is contingent on their use and purpose. If used for beneficial and halal purposes, they would be considered permissible, while usage for harmful or prohibited activities would render them impermissible.

The invention and use of AI chatbots can be categorized as *maslahah mursalah* (unrestricted public interest) through the method of *istislah* (seeking the best solution for the general public interest). This concept allows for the consideration of new issues not explicitly addressed in primary Islamic sources. When used for beneficial purposes, AI chatbots align with the category of *maslahah mu'tabarah* (considered benefits) in two aspects of *Maqasid al-Shariah*: the protection of intellect (*Hifz al-'Aql*) by enhancing learning and decision-making, and the protection of property (*Hifz al-Mal*) by improving business efficiency and economic benefits.

Moreover, the permissibility of AI chatbots as a means (*wasilah*) not only achieves the protection of intellect and property but also complements other objectives of Shariah. It supports the protection of religion (*Hifz al-Din)* by disseminating Islamic knowledge and answering religious queries, and the protection of life (*Hifz al-Nafs*) by providing health-related information and emergency assistance. This comprehensive view allows for the embrace of beneficial technological advancements while maintaining adherence to Islamic ethical and legal frameworks.

By considering AI chatbots through these Islamic legal principles and objectives, we can conclude that they are generally permissible, with their specific rulings dependent on their application and outcomes. This view allows for the embrace of beneficial technological advancements while maintaining adherence to Islamic ethical and legal frameworks.

This view is further supported by the research of Abu Bakar and Rosbi (2019), who proposed a robust framework for halal certification using AI methods. Their study introduced genetic algorithms and neural networks to improve halal testing processes, demonstrating the potential of AI to enhance the accuracy and efficiency of halal certification.

AI Chatbots as a Source of Islamic Rulings

The consideration of AI chatbots as a potential source of Islamic rulings is a complex issue that requires careful examination within the framework of Islamic jurisprudence. This analysis explores the relationship between AI chatbots and traditional sources of Islamic law, considering both primary and secondary sources, and evaluates the potential role of AI chatbots through the lens of *al-'Urf* (custom and tradition).

The foundational principle in Islamic jurisprudence, as stated by al-Zarkashi (1994), is that Islamic rulings must be derived from divine revelation. This principle emphasizes that authentic Islamic rulings can only originate from the Lawgiver (Allah) through the primary sources of al-Quran and al-Sunnah. This establishes the paramount importance of revelation in determining Islamic law.

Secondary sources of Islamic law are considered valid and permissible because they are ultimately grounded in revelation. For instance, *al-Qiyas* (analogical reasoning) is only valid when it is based on an original ruling (*al-asl*) from the Quran or Sunnah. This demonstrates the interconnectedness of secondary sources with primary revelation.

Among the secondary sources of Islamic rulings is *al-'Urf* (custom and tradition), which refers to common practices in society (Mursid et al., 2023). Given the widespread use of AI chatbots in various sectors, including Islamic contexts, they could potentially be considered under the category of *al-'Urf.* This classification opens up the possibility of considering AI chatbots within the framework of Islamic jurisprudence.

However, for AI chatbots to be considered a valid source of Islamic rulings under *al-'Urf*, they must meet specific conditions. Kamali (2003) outlines that for a custom to be considered valid in Islamic law, it must represent a common and recurrent phenomenon and must not violate any definitive principles of Islamic law. These conditions would need to be carefully evaluated in the context of AI chatbots.

While AI chatbots cannot replace the primary sources of Islamic law, there may be a potential role for them within the framework of secondary sources, particularly under the concept of *al-'Urf*. However, their use as a source of Islamic rulings would be subject to strict conditions and limitations to ensure compliance with fundamental principles of Islamic jurisprudence. Further scholarly discussion and consensus would be necessary to fully determine the extent to which AI chatbots can contribute to Islamic legal reasoning.

The potential of AI in Islamic rulings is further explored by Munshi et al. (2022), who developed an Automated Fatwa System using AI and Deep Learning NLP methods. Their work, which includes the creation of the largest dataset for Islamic Fatwas, demonstrates the possibility of using AI to assist in generating Islamic jurisprudential legal opinions, although it emphasizes that AI should complement rather than replace human expertise.

Islamic Principles for AI Chatbot Implementation in Halal

The implementation of AI chatbots in halal contexts requires careful consideration of Islamic principles to ensure compliance with Shariah. This section explores the concept of halal in Islamic rulings, the potential role of AI chatbots as a secondary source and provides justifications and guidelines for their implementation in halal practices.

In Islamic jurisprudence, the concept of halal extends beyond mere permissibility. As noted by Yunos et al. (2013), halal encompasses actions that are allowed or permitted by Islamic Law. This broader definition includes four categories of rulings: obligatory (*wajib*), recommended (*sunnah*), permissible (*mubah*), and detestable (*makruh*). This comprehensive understanding of halal is crucial when considering the implementation of AI chatbots in halal-related contexts.

AI chatbots can potentially be considered a secondary source of Islamic guidance, aligning with the principles of *al-'Urf* (custom and tradition). For this consideration to be valid, several conditions must be met. First, AI chatbot outputs must not contradict *al-Nass* (clear textual evidence from Quran and Sunnah) or the consensus of Muslim scholars (*al-Ijma'*). Second, the implementation of AI chatbots should follow correct methodologies and established practices. Lastly, the use of AI chatbots in halal-related inquiries should be sufficiently common and well-known within the Muslim community.

Several arguments support the permissibility of implementing AI chatbots in halal-related matters. AI chatbots rely on big data analysis derived from authentic sources, ensuring a foundation of reliable information. The responses generated by AI chatbots are based on established Islamic sources and scholarly opinions, not arbitrary decisions. Moreover, AI chatbots do not independently issue halal rulings but rather synthesize existing knowledge and opinions.

To ensure the proper use of AI chatbots in halal matters, several steps are proposed. First, employ AI chatbots only when conventional means of determining halal status (e.g., halal logos or official fatwas) are unavailable. Second, select AI chatbots with demonstrated accuracy in halal-related matters, potentially through comparative analysis of multiple platforms. Third, rather than directly asking for halal status, focus queries on ingredients or production processes to gather more comprehensive information. Lastly, request relevant *dalil* (evidence) from the AI chatbot to support any halal-related information provided.

In conclusion, the implementation of AI chatbots in halal contexts presents both opportunities and challenges. By adhering to Islamic principles, considering AI chatbots as a potential secondary source within the framework of *al-'Urf,* and following Shariah-compliant steps in their use, it may be possible to leverage this technology to support halal practices. However, continuous scholarly oversight and refinement of guidelines will be necessary to ensure that the use of AI chatbots remains in harmony with Islamic principles and values.

The implementation of AI in halal contexts is also being explored in various sectors. For instance, Gazali et al. (2020) examined the application of AI in Islamic investments, focusing on technologies like text mining and algorithmic trading. Their study highlights how AI can enhance decision-making processes in Shariah-compliant investments while adhering to Islamic principles.

Guidelines for AI Chatbot Use in Halal Domains

The following guidelines provide a framework for the responsible and effective use of AI chatbots in halal domains. These guidelines address various aspects of AI chatbot implementation to ensure compliance with Islamic principles and maintain the integrity of halal practices.

Guidelines for AI Chatbot Use in Halal Domains:

1. Characteristics of the AI Chatbot:

1.1. Reputation for soundness and accuracy: The chatbot should have a proven track record of providing reliable information. Its performance should be validated by experts in Islamic jurisprudence and halal certification. The verse from Surah Al-Hujurat (49:6) emphasizes the importance of verifying information, especially when it comes from a potentially unreliable source. This directly relates to the need for AI chatbots to have a reputation for accuracy and reliability in halal matters. The Islamic legal maxim "Certainty is not overruled by doubt" further reinforces this, suggesting that we should rely on sources that provide certain, verified information rather than those that may introduce doubt.

1.2. Comprehensive knowledge in halal issues: The chatbot should demonstrate an up-to-date and extensive knowledge base specific to halal matters. It should cover various aspects of halal products, processes, and relevant Islamic rulings. Hadith: "The halal is clear and the haram is clear, and between them are matters unclear that are unknown to most people..." (Sahih al-Bukhari 52, Sahih Muslim 1599). The cited Hadith about the clarity of halal and haram, and the existence of matters that are unclear, underscores the need for comprehensive knowledge in halal issues. This supports the guideline that AI chatbots should have an extensive and up-to-date knowledge base covering various aspects of halal matters, including those that might be less clear-cut.

2. User Qualifications:

2.1. Understanding of AI chatbot usage: Users should possess the knowledge to interact effectively with AI chatbots. This includes the ability to formulate questions properly and interpret responses in the context of halal considerations. The Quranic verse from Surah Al-Anbiya (21:7) encourages seeking knowledge from those who possess it. This supports the guideline that users should have a good understanding of how to use AI chatbots effectively. The legal maxim "Hardship begets facility" suggests that tools like AI chatbots can be used to ease the difficulty in obtaining halal-related information, provided users know how to use them properly.

2.2. Lack of alternative sources: AI chatbots should be used when other means of verifying halal status (e.g., official certifications, direct consultation with scholars) are unavailable. The Islamic legal maxim "Necessity permits prohibited things" relates to the guideline of using AI chatbots when no other sources are available. It suggests that in cases of necessity (like when no other means of verifying halal status are available), it may be permissible to rely on AI chatbots, even if they're not the ideal source.

3. Purpose of Use:

3.1. Determining ingredients and production processes: The primary use should be to gather factual information about products rather than seeking direct rulings. The verse from Surah Al-Baqarah (2:168) commands consuming what is lawful and good. This supports the guideline of using AI chatbots to gather factual information about ingredients and production processes, which is crucial in determining whether something is lawful (halal) to consume.

3.2. Clarifying ambiguous halal status: AI chatbots are particularly useful for items whose halal status is not immediately clear or lacks definitive rulings. The Hadith: "Leave that which makes you doubt for that which does not make you doubt" (Sunan al-Tirmidhi 2518) dvising to leave doubtful matters aligns with the guideline of using AI chatbots to clarify ambiguous halal status. It encourages seeking clarity in matters where the halal status is not immediately apparent.

4. Nature of Outputs:

4.1. Sufficiency of information: The chatbot's responses should provide comprehensive and directly relevant information to enable informed decision-making about halal status. The Quranic verse from Surah Al-Isra (17:36) warns against pursuing that of which one has no knowledge. This supports the guideline that AI chatbots should provide sufficient and relevant information to enable informed decision-making about halal status.

4.2. Absence of syubhah (doubt): Outputs should be free from ambiguous or doubtful elements, providing clear and unequivocal information to the best of the chatbot's capabilities. The Hadith about protecting oneself from doubtful matters to safeguard one's religion (Sahih al-Bukhari 52, Sahih Muslim 1599) directly relates to the guideline of ensuring AI chatbot outputs are free from

> syubhah. The legal maxim "Harm must be eliminated" further supports this, suggesting that the potential harm of uncertain or doubtful information should be eliminated by ensuring clear and unambiguous outputs from AI chatbots.

These guidelines, supported by Quranic verses, Hadiths, and Islamic legal maxims, provide a robust framework for the use of AI chatbots in halal domains. They emphasize the importance of seeking accurate knowledge, avoiding doubt, and making informed decisions in matters of halal and haram. By adhering to these principles, the implementation of AI technology in halal contexts can be aligned with Islamic teachings while benefiting from technological advancements.

These guidelines are particularly relevant in light of recent studies. For example, Rahman et al. (2024) examined the application of AI in halal marketing, emphasizing the need for AI implementations to align with Islamic principles of fairness, justice, and accountability. Similarly, Nasution et al. (2024) investigated the adoption of AI-powered chatbots in halal marketing communications by SMEs, revealing positive relationships between perceived usefulness, attitude towards chatbots, and adoption intention in the halal marketing context.

Furthermore, Battour et al. (2023) explored the use of AI-enabled technologies in halal-friendly tourism, proposing a theoretical model that links AI technologies to Muslim-friendly tourism experiences. Their work demonstrates the potential of AI chatbots to enhance the experiences of Muslim tourists while respecting religious requirements.

CONCLUSION

This study has explored the integration of AI chatbots into halal practices, examining the intersection of Islamic principles, technological advancements, and ethical considerations. The research has highlighted the potential of AI chatbots to enhance various aspects of halal-related services while emphasizing the need for careful implementation that adheres to Islamic values and principles.

The integration of AI chatbots into halal practices represents a significant opportunity for innovation in Islamic contexts, but it also presents unique challenges. The study has demonstrated that while AI chatbots can potentially improve efficiency, accuracy, and accessibility in halal-related services, their implementation must be guided by a comprehensive framework that ensures compliance with Islamic principles and addresses ethical concerns.

The research has successfully identified key Islamic principles that should govern the development and deployment of AI chatbots in halal contexts. These include the principles of permissibility (*al-asl fi al-ashya' al-ibahah*), consideration of ends (*maqasid al-Shariah*), and the concept of public interest (*maslahah mursalah*). These principles provide a foundation for evaluating and guiding the use of AI chatbots in halal practices. Furthermore, the study has defined clear parameters and boundaries for AI chatbot functionality in halal practices, including ensuring that AI chatbot outputs do not contradict primary Islamic sources, following established methodologies in Islamic jurisprudence, and limiting the role of AI chatbots to information provision rather than issuing independent rulings.

Ethical guidelines and best practices for the responsible use of AI chatbots in halal domains have been established through this research. These include ensuring transparency in AI chatbot capabilities, maintaining data privacy and security, and implementing human

oversight to validate AI-generated responses. A comprehensive framework has been developed to guide the integration of AI chatbots into halal practices, incorporating Islamic teachings, technological considerations, and ethical guidelines, providing a holistic approach to implementing AI chatbots in halal contexts.

Based on the findings of this study, several recommendations are proposed. First, it is crucial to establish ongoing collaboration between Islamic scholars and AI experts to ensure that AI chatbot implementations remain aligned with Islamic principles as technology evolves. Second, comprehensive educational programs should be developed to inform users about the proper use and limitations of AI chatbots in halal contexts, emphasizing the need for critical thinking and verification of information. Third, the development of regulatory frameworks specific to AI chatbots in halal domains should be encouraged, involving stakeholders from religious institutions, technology sectors, and governmental bodies.

Furthermore, it is recommended to conduct empirical studies to assess the long-term impacts of AI chatbot integration in various halal sectors, including finance, tourism, and consumer products, to refine and improve implementation strategies. Lastly, fostering international collaboration among Muslim-majority countries to share best practices and develop standardized approaches to AI chatbot implementation in halal contexts is crucial for the global advancement of this technology in Islamic contexts.

By addressing these recommendations, the integration of AI chatbots into halal practices can be achieved in a manner that respects Islamic principles, leverages technological advancements, and provides valuable services to Muslim communities worldwide. This research contributes to the growing body of knowledge at the intersection of Islamic jurisprudence and artificial intelligence, paving the way for responsible and beneficial integration of AI technologies in halal domains.

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